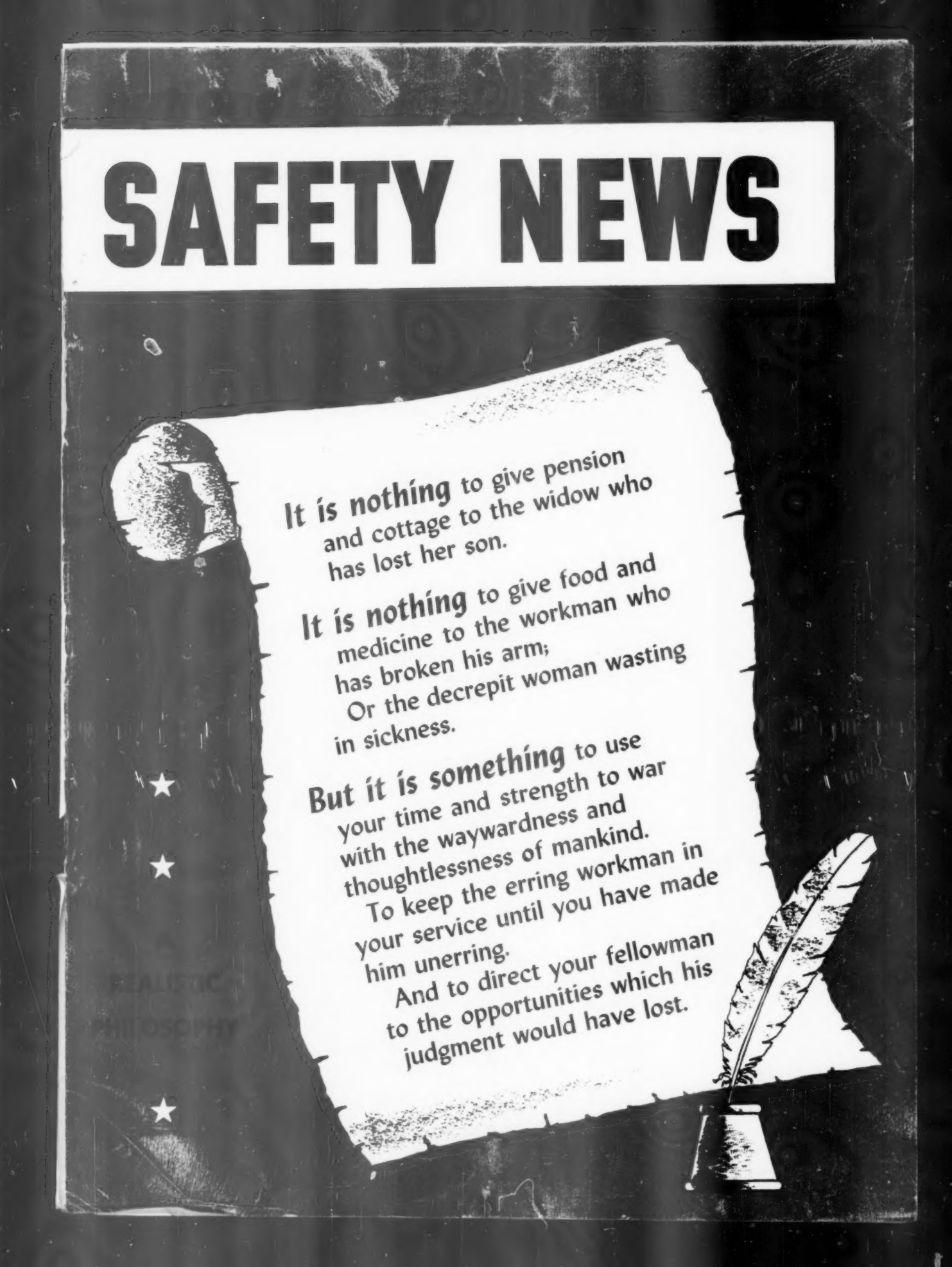
SAFETY NEWS



It is nothing to give pension and cottage to the widow who has lost her son.

It is nothing to give food and medicine to the workman who has broken his arm;
Or the decrepit woman wasting in sickness.

But it is something to use your time and strength to war with the waywardness and thoughtlessness of mankind.
To keep the erring workman in your service until you have made him unerring.
And to direct your fellowman to the opportunities which his judgment would have lost.

Richmond Radiator Company
Monaca, Pennsylvania

Found a single answer to a

DOUBLE PROBLEM

in the

M·S·A DUSTFOE #55

Rightly recognizing that voluntary respirator use on jobs requiring breathing protection depended on the selection of a respirator that would (1) answer workers' comfort needs and (2) keep maintenance to a minimum, Richmond Radiator safety planners made a thorough investigation of available models.

Their choice was the M.S.A. Dustfoe #55. Since then, the Dustfoe has become the standard for the plant.

Workers' comments on the Dustfoe have been most favorable. In the chemical mixing and blending operations, for example, the men like the small, streamlined design of the filter holder. "It lets you see what you're doing when you have to look down," is a typical comment. Several of the men have pointed out, too, that the minimum breathing resistance and light weight (2¾ oz.) helps eliminate job fatigue.

Simplified design and construction have played a big part in reducing maintenance. Filters are quickly replaced on-the-job, keeping the respirator at top efficiency. And because all parts are independently replaceable, any element, worn out after extended use, can be replaced in seconds.

The M·S·A DUSTFOE #55 —the Respirator workers will wear!

Designed for worker acceptance, the Dustfoe #55's streamlined appearance contributes to its greater eye-appeal, keeps distracting corners out of the line of vision, aids work concentration, and eliminates that "closed-in feeling" that hinders comfort and efficiency. Get the facts on this U.S. Bureau of Mines Approved respirator. Write for bulletin.

MSA
SAFETY EQUIPMENT HEADQUARTERS

Call the M.S.A. men on your every safety problem . . . his job is to help you

MINE SAFETY APPLIANCES COMPANY
201 NORTH BRADDOCK AVENUE, PITTSBURGH 8, PA.
At Your Service: 76 Branch Offices in the United States

MINE SAFETY APPLIANCES CO. of CANADA, Ltd.
Toronto, Montreal, Calgary, Edmonton, Winnipeg, Vancouver, New Glasgow, N.S.
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Cable Address: "MINSAF" Pittsburgh

NEW WILLSON Interchangeable Respirator

First truly interchangeable respirator.
Requires no additional parts or accessories to use any one of the cartridges, filters, or combinations shown.

For Organic Vapors (BM2308)
For Dusts and Organic Vapors (BM2308)
For Paint Spray
For Acid Gases
For Organic Vapors and Acid Gases
For Ammonia
For Metal Fumes, Dusts, and Mists (BM2149)
For Radio-active and Beryllium Dusts, Mists or Fumes
For Dusts and Mists (BM2162)

These Respirators are individually packed in sealed, transparent plastic bags enclosed in a sturdy metal-edge box.

Write for the new bulletin fully describing these new Willson Respirators. Standardization on the new Willson No. 800 Interchangeable Respirator can greatly simplify your respiratory protective inventory.

More than 300 Safety Products Carry This Famous Trademark

WILLSON®

Established 1870

WILLSON PRODUCTS, INC., 205 Washington Street, Reading, Pennsylvania

SAFETY NEWS

Published monthly by the National Safety Council

JANUARY 1954

THE COVER: The safety thoughts on this month's cover, attributed to John Ruskin, were used on a recent poster issued by the British Columbia Workmen's Compensation Board.

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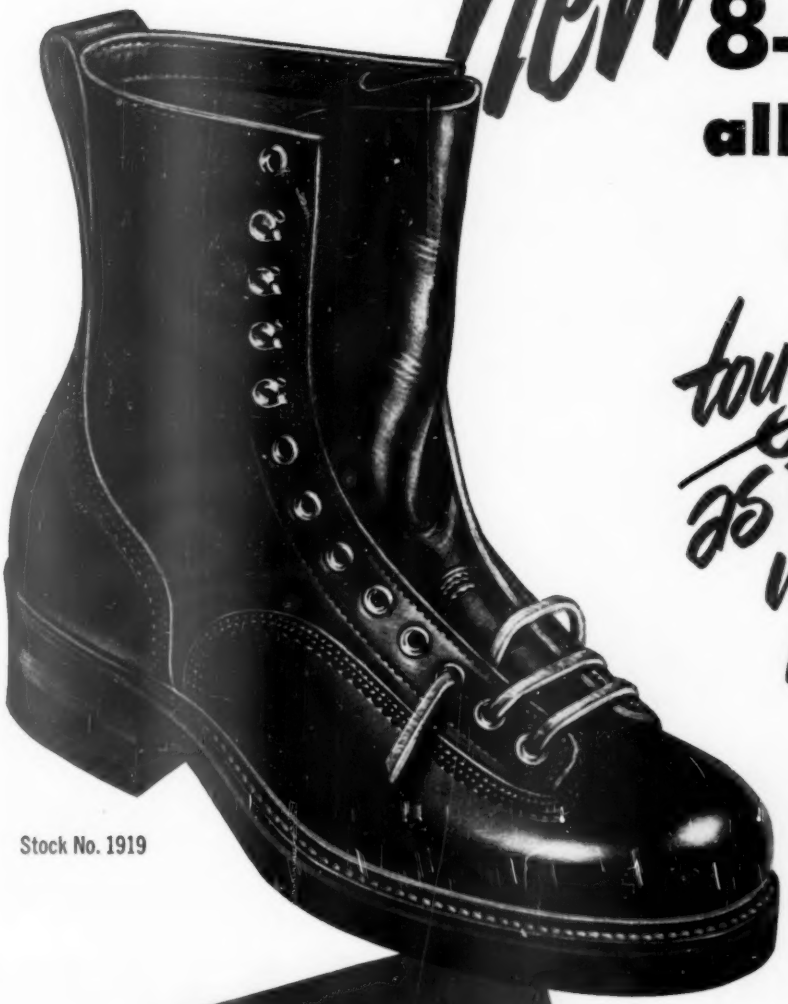
new 8-inch all-purpose boot

tough as the men who wear them



Stock No. 1919

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ALLENTOWN, PA.

We've spared nothing to make this one of the finest, toughest work boots ever built. It's *all* leather – *prime* leather – from pull-strap to insole – stays soft and pliable through muck and weather. The new lace-to-toe pattern moulds the shoe to the foot like a sock – and feels as good. The oversize vulcork-Neoprene outsole and heel give safe, sure footing – resist even oil and grease – will outwear anything short of hobnails. Nobody gives work shoes a harder time than yard men. Use it for every outdoor job where the going is rough.

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STUDY OF ACTUAL FALLING SEQUENCE BY STROBOSCOPIC MULTI-FLASH EQUIPMENT AT 1/10,000 OF A SECOND

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On Cranes of All Types, The

Tuffy Team

Will Run Longer!

Now, there is no need to monkey with a lot of different rope constructions trying to find a hoist line and sling combination that will give you the most service. This pair of special purpose constructions will handle your crane work as it never was handled before.

Oldest of this tough work-team is Tuffy Slings. From the very start they set new standards of service life throughout industry—continue to set records in keeping sling cost down and the safety record clear. The reason? An entirely new patented 9-part machine braided wire fabric construction so flexible you cannot materially damage the fabric when kinking and knotting, and so tough that users asked for a hoist line to match in wearability.

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NEW **Tuffy** HOIST LINE

Tuffy SLINGS

48-Page Handbook and Riggers' Manual, sent to you on request! Write today for handbook and complete information on Tuffy Hoist Line.

Be Sure...Be Firm
Tell Your Distributor Tuffy Hoist Line...
and the diameter and length—that's all he needs to know! For slings, specify Tuffy, sling type, diameter, length and fittings. Or buy Tuffy Braided Wire Fabric on the reel if you do your own rigging. Remember, your distributor can *always* supply the Tuffy you need!

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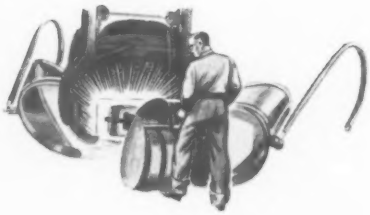
Specialists in High Carbon Wire, Wire Rope and Braided Wire Fabric

For every eye hazard a "field tested" answer!



New methods and machines in modern industry keep creating new dangers to workers' eyesight. Bausch & Lomb, pioneer in the development of heat-treated impact-resistant lenses, is likewise a pioneer in the design of eyewear frames and other eye protection devices.

There is no industrial eye hazard for which Bausch & Lomb has not developed the most dependable solution —or for which Bausch & Lomb is not best qualified to approach with skilled research effort.

Typical problems: providing ample protection against impact—frontal and oblique—against dust, splash, harmful light energy radiation; always with emphasis on worker comfort and efficiency.

Depend upon the Bausch & Lomb safety eyewear supplier in your area for advice and quick service. He is thoroughly qualified to aid in the solution of any eye protection problem that may arise in your plant. Ask for 48-page catalog of complete Bausch & Lomb line, showing practical application to all job requirements. Write: Bausch & Lomb Optical Company, 90325 Smith Street, Rochester, N. Y.

You can benefit from these Bausch & Lomb industrial vision services

1. **Complete Line of Protective Eyewear**—Completely dependable safety eyewear engineered to meet the most rigid tests for every job in your plant. Protection from all types of eye hazards.

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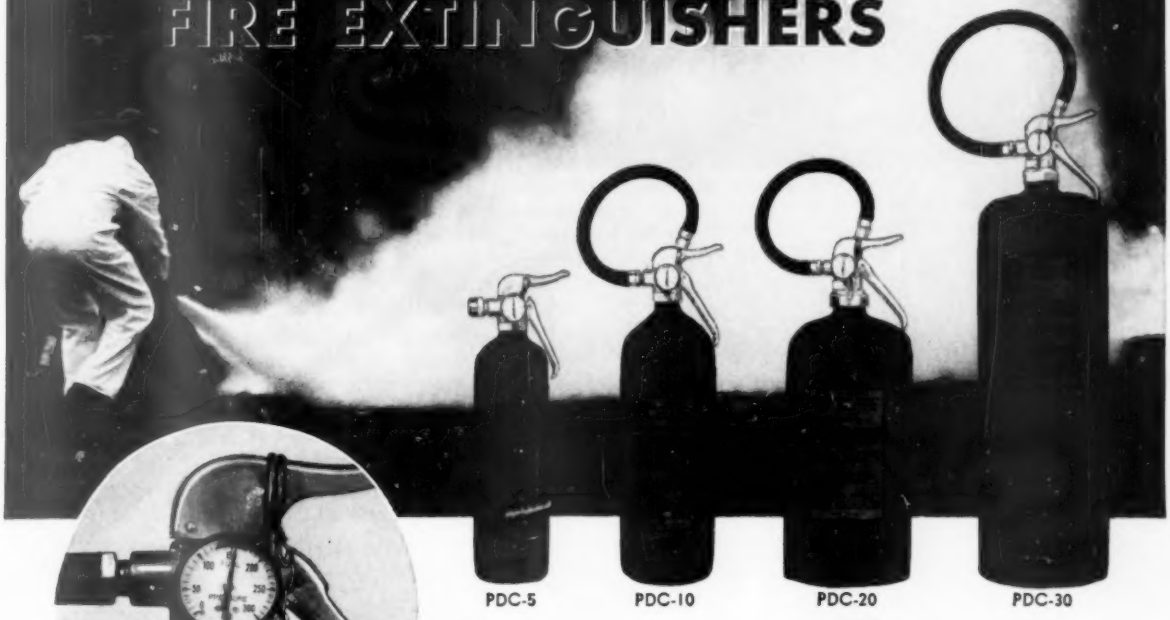
5. **Occupational Vision Service**—A quick, dependable method for relating visual performance of each employee to his job. The Bausch & Lomb Ortho-Rater is especially valuable for identifying accident-prone workers.

6. **Leadership in Optical Science**—For 100 years Bausch & Lomb has been a leader in research and development of products to serve better the optical and visual needs of mankind. All industry is profiting today from this knowledge and experience.

BAUSCH & LOMB *Safety Eyewear*

THEY'RE PRESSURIZED - READY TO GO!

New ALFCO DRY CHEMICAL FIRE EXTINGUISHERS

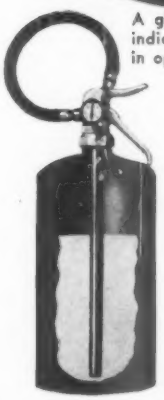


PDC-5 PDC-10 PDC-20 PDC-30

A glance at valve gauge indicates whether unit is in operating order.

Unmatched in Fire Smothering Efficiency!

WHEN FIRE HITS, THESE NEW ALFCO DRY CHEMICAL MODELS ARE READY TO STOP IT



With Valve and Siphon Assembly removed as single unit, ample size opening is provided for charging.

Simply pull pin and squeeze lever. No gadgets to operate, no last minute pressurizing from a gas cartridge or cylinder, no inverting, no bumping, no shut-off nozzle on the hose needed. They're ready to go!

Their fire-smothering efficiency is aided by a scientifically designed Alfco Discharge Nozzle which fans the Dry Chemical outward and downward in wide pattern and with great density. Their 150 (plus 25 minus 0) psi. air (or nitrogen) pressure maintains an excellently uniform duration of the Alfco Dry Chemical discharge pattern.

When partially operated, they can be left standing without loss of air pressure.

The Alfco Dry Chemical Valve is completely new also. It is ruggedly built. No special tools needed. Contains few parts. Equipped with Safety Relief Valve. Complete valve and siphon tube assembly removes as a single unit for recharging. They're water-tight, and noncorrosive. Tested for vibration and for operation at temperatures from minus 40° F. to plus 150° F. An Alfco Moisture Trap provides for pressurizing with air.

Write us for illustrated literature and full details of their special features.

Model numbers designate the capacities by weight of Dry Chemical.

Approved by Underwriters' Laboratories for Class B and C Fires.

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ALFCO

IT'S NEW!

LIGHT. . . .

SEE HOW SOFT!

The rest-easy nose pads assure maximum comfort... greater worker acceptance. No pressing... no gouging. These large soft polythene pads mold gently to the contours of the nose... distribute weight lightly.

NOW! ***A Complete Line of Head and Eye Protection for Every Job!***

. . ON THE NOSE!

What's new? Just look at the nose pads! Light where it counts, *right* where it counts—on the nose. These new USSSCO SAF-I-SPECTACLES with metal frames give your workers *more comfort than ever before available* in this style of eye protection. The large, free-adjusting nose pads are made of *velvet-soft* plastic . . . are not rigid and hard...will not dig into the nose. This exclusive USSSCO comfort feature that guarantees greater worker acceptance is available only on the new metal-framed SAF-I-SPECTACLE.

- Standard lens is OPTILITE "A"...better because it's 30% lighter...harder, more resistant to scratching. Also available in low-cost OPTILITE "B" or hardened-glass lens.
- Available with or without side shields.
- Reinforced single bridge is lighter, stronger, better looking. Available in four bridge widths and 44 mm. and 47 mm. eyesize.
- Flexible temples for easy, proper fit...covered with sweatproof, non-flammable insulation.

As all USSSCO products, this new SAF-I-SPECTACLE meets all federal specifications for optical qualities, impact resistance and frame construction.

OPTILITE is USSSCO's registered trade name for exclusive formula optical plastics.

NEED ALL-ROUND PROTECTION?

These versatile, lightweight SAF-I-SPECTACLES are available with perforated, non-corrosive metal side shields, offering all-round eye safety on all jobs requiring this extra protection.

Contact your USSSCO sales office listed in the classified section of your phone book, or write today for complete information.

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to Make Safety Work

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MORE EFFECTIVE... MORE DEPENDABLE

FIRE-STOPPING POWER

MODEL 20-B

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Chemical Company
FIRE EQUIPMENT DIVISION • MARINETTE, WISCONSIN

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FASTER . . . A short, quick downward motion of the puncture lever pressurizes the extinguisher and it is ready for instant use.

MORE EFFECTIVE . . . Even the inexperienced operator gets near-expert results because of the ease of operation and handling. In addition ANSUL *"PLUS-FIFTY"* Dry Chemical has greater fire-killing power.

MORE DEPENDABLE . . . Exclusive ANSUL-ENGINEERED design features include water-tight and corrosion-resistant construction, easy, on-the-spot recharge without special tools and other exclusive Ansul developments which insure greater dependability.

FIRE-STOPPING POWER . . . ANSUL FIRE EXTINGUISHERS have the highest ratings for fire-stopping power ever awarded any type of class B and C fire extinguishing equipment.

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MANUFACTURERS OF
DRY CHEMICAL FIRE EXTINGUISHING EQUIPMENT, REFRIGERATION PRODUCTS, INDUSTRIAL AND FINE CHEMICALS AND LIQUEFIED GASES

MODEL E (HAT)

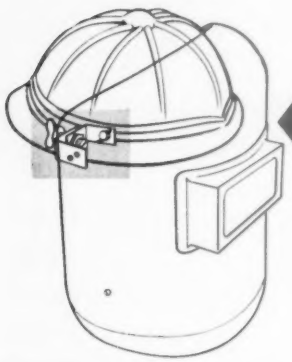
NOW! ADDITIONAL DAVIS HEDGARD FEATURES

For greater safety . . . greater convenience

LOCK-CLIP HEAD CRADLE

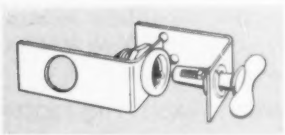
Davis announces a new, 6-point suspension head cradle . . . easily adjusted to fit any head. Stainless steel, rust proof lock-clips save replacement time in the field. Cradle may be removed or replaced in 30 seconds. Genuine leather or leatherette. For protection and appearance, your men will want to wear this hat. Also available in cap style—Model F. Standard suspension model available in either style.

LOCK-CLIP CRADLE



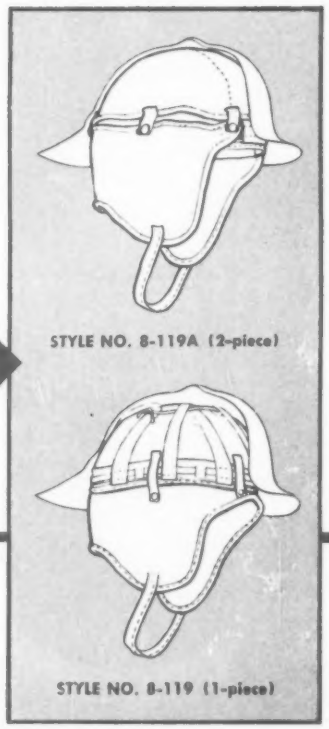
WELDING SHIELD-CAP COMBINATION

This clever, newly designed spring lock fastener permits attachment or removal of welding mask in seconds. A twist of the fastener disengages the mask from the Hedgard. Both shield and cap of molded fibre glass and resin.



WINTER LINER

Snug head, ear and neck protector made of cotton twill and lined with cotton flannel for comfort during cold weather work. Two styles—one-piece with ear flaps, or two-piece which may be worn with or without ear flaps. Either will fit all Davis Hedgards and all other hats as well. Both have adjustable chin straps. A unique design permits one size to fit all heads.



STYLE NO. 8-119A (2-piece)

STYLE NO. 8-119 (1-piece)

MODEL F (CAP)

MINER'S LAMP BRACKET

Designed to fit lamps of all makes and models, the Miner's Lamp Bracket may be attached to either Davis Plastiglas Hedgard (Model E or F). Safe, steady base for illumination.

Write for Bulletin #1407

DAVIS EMERGENCY EQUIPMENT CO., INC.

55 Halleck Street, Newark 4, N. J.

SAFETY DAVIS DIVISION

COPPUS BLUE RIBBON VENTILATORS

Used in wide variety of applications throughout industry

Improve workers' safety . . . health . . . comfort . . . efficiency

VANO DESIGN "A" VENTILATOR is used here during repairs to a chemical still. This type ventilator is used to ventilate tanks, tank cars, drums, vats, underground cable manholes, pipe galleries, airplane wing compartments, fuselages and other confined places. Uses 8" diameter flexible canvas tubing ("Ventube").

VANO DESIGN "B" VENTILATOR here discharges welding fumes from double-bottom compartment in naval vessel under construction. Large volume of air handled quickly expels fumes and results in good ventilation. Vano Design "B" can pass through opening only 14" in diameter. Uses 8" diameter flexible canvas tubing ("Ventube").

VANO DESIGN "C" VENTILATOR here withdraws fumes from a reactor kettle. This ventilator can be furnished with 8" suction inlet for 8" non-collapsible suction tubing — or multiple inlet nozzles for 5", 4", and 3" suction hose. The discharge may be connected to 8" "Ventube." Capacities furnished on request.

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VENTAIR DESIGN TE-4 VENTILATOR Gasoline Engine Driven, here delivers air into underground manhole. These ventilators provide fresh air to men in confined places, promoting safety, comfort, and increasing efficiency. Ideal where no electric current is available. Delivers 1700 CFM of fresh air. Uses 8" diameter flexible canvas tubing ("Ventube").

PORTAIR NO. 4 BLOWER EXHAUSTER exhausts fumes resulting from soldering, welding, tank coating, is also used in ventilating small tanks. It is designed to permit attachment of 4" flexible metal hose. Capacity: 425 CFM free air.

ATTACH THIS COUPON TO YOUR COMPANY LETTERHEAD

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Please send me information on supplying fresh air to men working:

- ☐ in tanks, tank cars, drums, etc.
- ☐ in underground cable manholes
- ☐ in aeroplane fusilages, wings, etc.
- ☐ on coke ovens
- ☐ on steam-heated rubber processes
- ☐ on boiler repair jobs

COOLING:

- ☐ motors, generators, switchboards
- ☐ wires and sheets
- ☐ general man cooling
- ☐ around cracking stills
- ☐ exhausting welding fumes
- ☐ stirring up stagnant air wherever men are working or material is drying
- ☐ drying of walls, sheets, etc., after treated with coating material

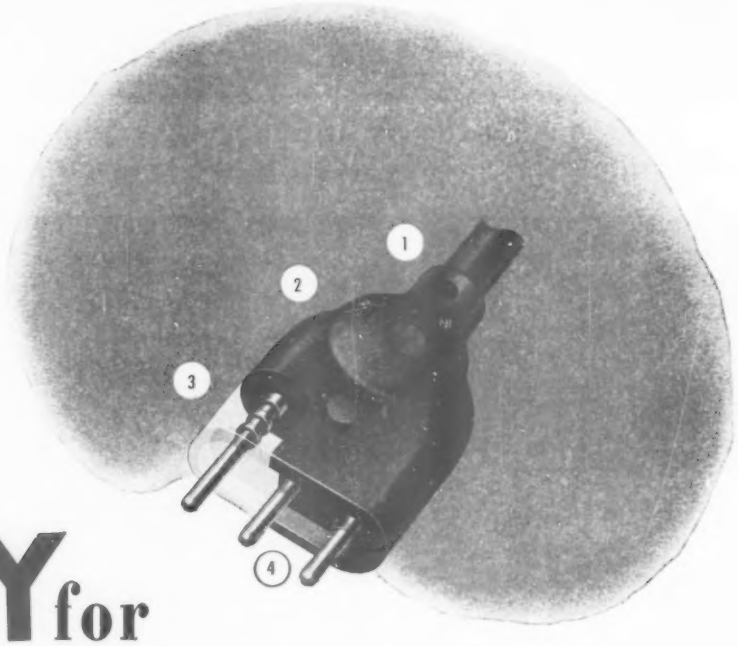
Name .....

Company .....

Address .....

City .....Zone....State.....

Write here any special ventilating problem you may have { _____ _____

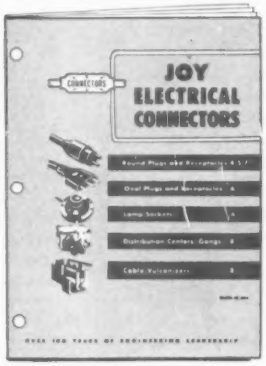


try JOY for better electrical connections

There's only one accurate way to measure value . . . and that's by the old-fashioned yardstick of performance. The best isn't always the highest priced, nor is the least expensive the cheapest. Electrical connectors are no exception . . . however the plugs and receptacles JOY has developed for industry *are* exceptional values in long range trouble-free performance. Molded as one-piece Neoprene jacketed units they can't crack or become out-of-shape when dropped — won't get mushy when smeared with grease or oil — and are absolutely watertight. When connected, mating beads or lips (5) shield contacts from dust or metallic particles in the air.

Why be satisfied with less . . . when the best actually costs less in the long run? Only JOY electrical connectors provide all these advantages:

(1) Re-inforced cable-to-connector junctions
(2) Tough wear-resistant Neoprene jacketing
(3) Low resistant — wear compensating contacts
(4) . . . . and the famous JOY waterseal



FOR MORE DETAILS, *ask for your free copy of Bulletin MC108. It contains sixteen pages of illustrations and specifications on some of JOY'S most popular plugs and receptacles.*

MORE THAN 100 YEARS ENGINEERING LEADERSHIP

ME 1538

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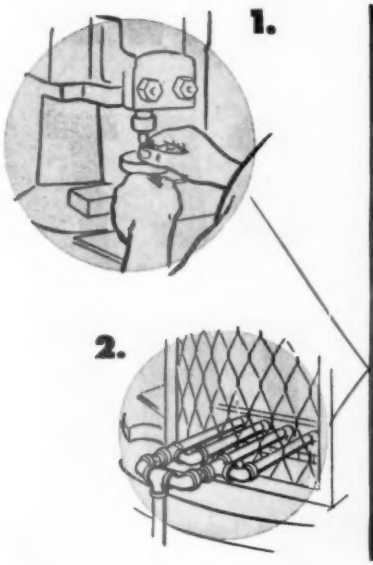

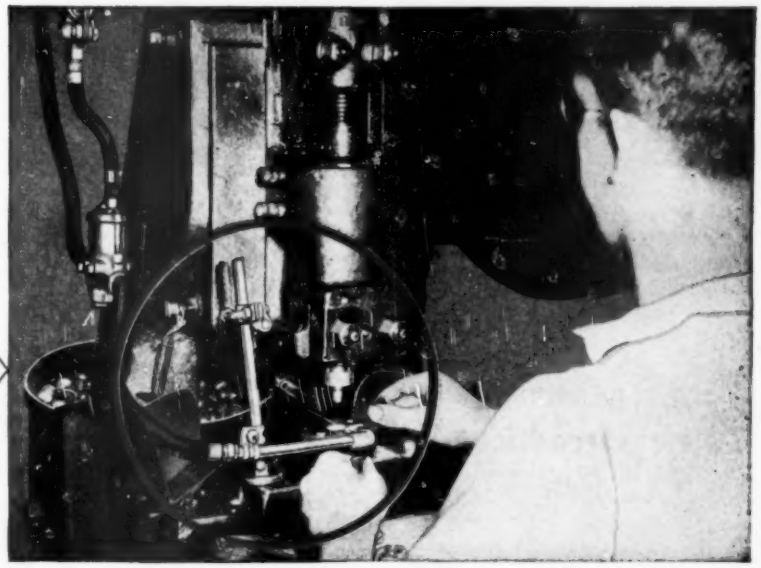

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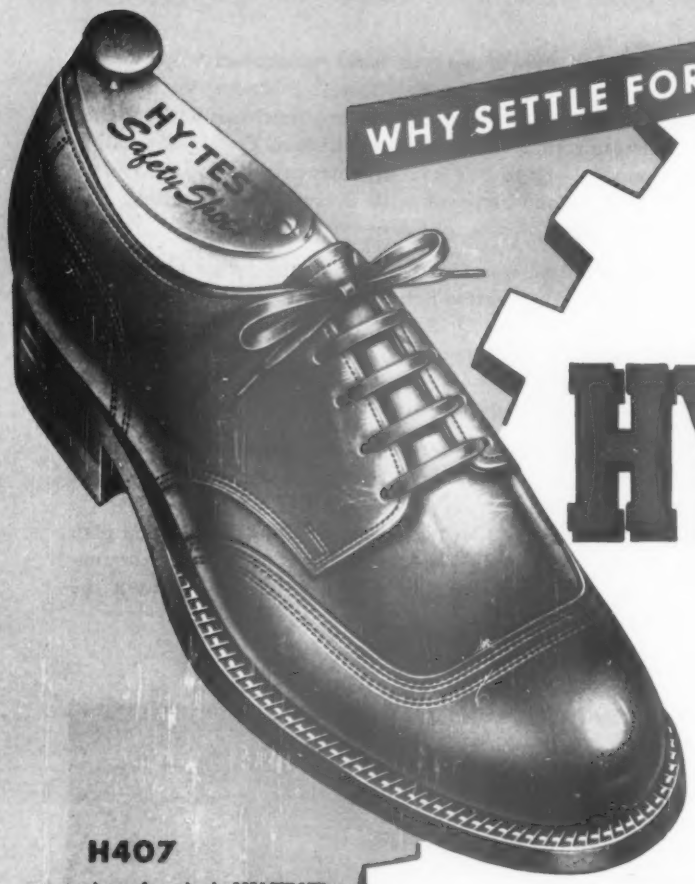

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"... with renewed vigor and effort"

THIS is the time of year when much will be written on a familiar theme. It is a timeworn theme which goes something like this: "We've come a long way in the past year. Much progress has been made. But now we must turn to the future with renewed vigor and effort! The gains and knowledge acquired in the past must be converted into the new successes . . ."

These words may sound trite. Cynics may scoff at them. Nevertheless, in the safety movement, they are an accurate appraisal of the situation.

Today, accidental injuries and deaths are occurring at an alarming rate. But a look at the accident totals which prevailed back when the National Safety Council had its beginning would convince any skeptic that in the intervening 40 years impressive progress has been made.

So, once more it must be said that a big job has been done. There is, of course, much more to be accomplished. There is every reason to believe it will be accomplished. We have the men, the materials and the incentive. And now time has turned over a new, blank page on which for us to record the results of new determination and effort in the fight for life.

* * *

What a mighty sum of events has been consummated; what a tide of passions and affections has flowed; what lives and deaths have alternately arrived; what destinies have been fixed forever; Once more our planet has completed one of those journeys in the heavens which perfect all the fruitful changes of its peopled surface, and mete out the few stages of our existence; and every day, every hour of that progress, has in all her wide lands, in all her million hearts, left traces that eternity shall behold.

—William Howitt

* * *

A Noble Purpose

FROM the pens of countless writers and philosophers have come millions of words which attempt to describe the true meaning and purpose of the saving of human life. The following is an excellent example, and might well serve as an inspiration to safety men everywhere.

The purpose to save life is the noblest of all purposes;
It embodies the highest ideal of humanity;
Conserves the best asset of the nation;
Provides the best protection for the nation;
Creates the real glory of the nation;
It incarnates the only spirit which offers a solution for all our modern problems, namely, the spirit of democracy and brotherhood;
It answers in the affirmative—we *are* our brother's keeper, and, more than that, we are our brother's brother.

—John McDowell

40 YEARS OF

Natural hazards and the barriers of language and illiteracy failed to stop the progress of accident prevention

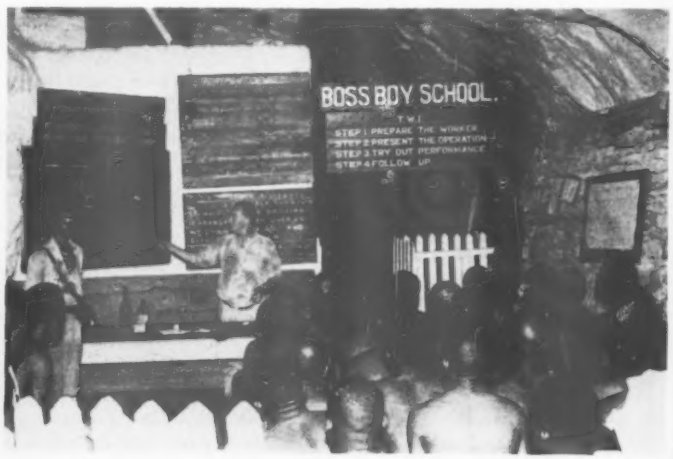
AS the National Safety Council opened for business in 1913, another organization with safety as its goal was established in that part of the Union of South Africa called the Witwatersrand, popularly known as "The Rand." Heart of this region of deep, fabulous gold mines is the busy modern city of Johannesburg.

This pioneer safety organization was the Prevention of Accidents Committee of the Transvaal Chamber of Mines with headquarters at Johannesburg. Its establishment was stimulated by the result of investigations into the indiscriminate and apparently reckless violations of mining regulations.

The problems facing the campaign against accidents on the Witwatersrand were far more perplexing than those in the U. S. A. In the first place, there was the language barrier. In addition to the English and Afrikaans (Cape Dutch) spoken by Europeans, there are some 41 native languages, each with its own dia-

A first-aid training school for native workers. They learn the techniques readily and their ability to treat minor injuries prevents infections.

At boss boy schools, native workers learn details of mine work. An artificial language, Fanakalo, has become a medium of communication.



SAFETY IN RAND MINES

lects. Often the native workers cannot understand each other, let alone their European supervisors. Most of them were illiterate.

The Committee as originally organized consisted of four members. Today it has 35 members, including representatives of the Transvaal Chamber of Mines; the Departments of Mines, of Labour, of Native Affairs and of Public Health of the Government of South Africa; the Mining Houses; the Association of Mine Managers of the Transvaal; the Transvaal Colliery Managers' Association; the Transvaal Mine Medical Officers' Association, and the Rand Mutual Assurance Company, Limited.

The Committee has set up four principal standing sub-committees: (1) Technical Sub-Committee, (2) Publications Sub-Committee, (3) Prize Scheme Sub-Committee, and (4) First Aid Sub-Committee. From time to time other sub-committees are appointed to investigate and report on some special phase of the work on which the Main Committee desires information.

In an effort to overcome the language difficulty, a sort of Esperanto known as Fanakalo has been developed and is now widely used in the mines. A Fanakalo vocabulary and phrase book, called *The Miners' Companion* has been printed and circulated among European mine workers.

Because of their illiteracy, Native workers cannot be reached by the printed word. However, they are keenly interested in pictures and posters and other bulletin board displays and demonstrations are used extensively. They are also interested in first aid and learn the techniques quite readily.

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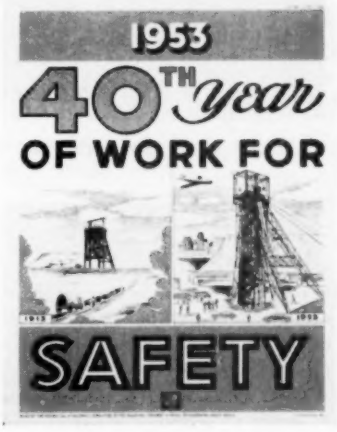
Instruction is complicated by the many native dialects but pictures speak a universal language. They are keenly interested in posters.



South Africa is a bilingual country, with both English and Afrikaans having official status. The above poster announces the fortieth anniversary of the Prevention of Accidents Committee of the Transvaal Chamber of Mines.

Sign at main gate reminds employees of safety as they leave.

Design Safety In .... Accidents Out

This company's slogan applies to employee training as well as to maintenance of plant and equipment

AS RECENTLY as 1947, the Foundry Division of Eaton Manufacturing Company at Vassar, Mich., had an ignoble frequency rate of 33.3 and a matching severity of 4.33.

By way of comparison, and as evidence of an effective safety program, in 1952 the frequency rate dropped to 14.78 and the severity rate to .08. For 1952 the national average for gray iron and malleable foundries was 31.07 for frequency and 1.05 for severity.

On completing 1952 the Division was given recognition for having shown the greatest improvement among the 12 divisions of Eaton Manufacturing Company during the previous five years. In four out of the past five years the Division won awards in the Foundry Group of the National Safety Council's Metals Section.

The first six months of 1953 showed further improvement, with a frequency rate of 8.6 and a severity rate of .03. Costwise, there was a reduction from $1.59 per hundred man-hours worked in 1947 to $ .37 in 1952—a saving of $1.22 per hundred man-hours. The first half of 1953 showed a further reduction to $ .21.

The plant, which has a floor area of approximately 166,000 square feet, turns out permanent mold gray iron castings weighing up to 18 pounds. Its major markets are the manufacturers of motor cars, machine tools, trucks, air conditioning units and refrigerators, washing machines, electric appliances, business machines, and hydraulic equipment.

Back of the program is painstaking, coordinated effort on the part of Eaton officials under the direction of the Division's general manager, Edward C. Hoenicke, and the company and division supervisory personnel.

A major part of the program is directed toward employee education, effective supervision and daily contact of supervisors with employees. This is supplemented by systematic reporting on safety activities.

Other than personnel failure, common sources of accidents include: inadequate electrical equipment, lighting and ventilation, and

materials handling equipment. Most serious of all was the lack of a definite safety program.

To ascertain the chief accident causes, Eaton staff people studied the accident experience and made analyses of the causes. Some of the non-lost time accidents and the resulting injuries were as follows:

1. Splashing iron—burned buttocks.
2. Dropped ladle—contusion to thigh.
3. Stepped on piece of scrap—sprained ankle.
4. Flying particles—cut eye.
5. Improper pushing of load—back strain.
6. Hooked out casting—burned neck and arms.
7. Snag grinding—eye injury.
8. Falling material—smashed fingers and toes.

Here are some specific accidents that resulted in lost time:

1. Slipped and fell against machine—contusion to hip.
2. Splashing metal—burned foot.
3. Struck on machine—cut knee.
4. Flying particle and subsequent infection—loss of eye.
5. Falling bag—fractured finger.
6. Falling casting—fractured toe.
7. Dropping mold—fractured toe.

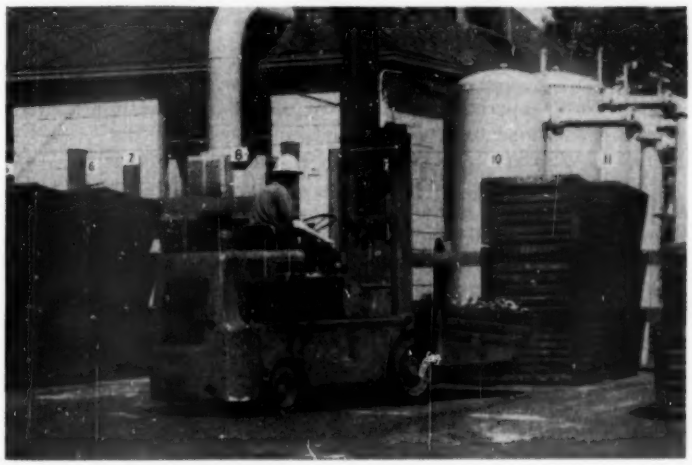
Of the injuries suffered by foundry workers, 60 to 70 per cent involved the eyes. The above list also indicated the hazard of falling loads, due to poor housekeeping and improper storage and handling. Such detailed analyses were valuable in revealing where attention was needed.

In computing lost time, standard time charges of the American Standards Association are used. Non-lost-time injuries cover dispensary treatment or loss of time for only the balance of the working shift.

The program concentrated on a program of education and enforcement over and above steps toward modernization of facilities, provisions for improved storage and housekeeping, modern handling equipment, good lighting, and scientific use of color.

Setting up an effective chain of command was the first step toward the goal. The educational side of the program began with the company's industrial relations staff. From here it descends through the general manager to the foundry's safety director, the factory man-

Plant Safety Committee meets each month with the safety director. Movie equipment is used to show safety and training films.



Castings stored in metal skid bins in yard, are easily and quickly handled by powered industrial trucks without manual handling.

Standard safety equipment is made available to all employees through the first-aid dispensary. Shoes are sold at cost (via payroll deduction); other items are free.

A small fire under molding machine is quickly put out by worker using a portable extinguisher.

A foreman points out guards on end grinder to operator. Safety instruction is passed on through personal contact.

ager of the Foundry Division, through his 40 supervisors, to the workers. Enforcement begins with the factory manager.

Emanating from the staff office is a set of regulations in the form of an employee manual which presents current information on accident prevention, dispensary operations and compensation procedure. It presents details of existing laws and standard company and state forms.

While this manual contains the latest general data available, the division's safety director adapts from it regulations applicable to local conditions. While it is the duty of the staff office to call on each division twice a year to inspect facilities, the main responsibility for safe day-to-day operation rests with the foundry.

The safety director of the Foundry Division holds frequent meetings with all supervisors, during which problems are aired and new procedures stressed. At these meetings, information concerning hazardous chemicals, materials or gases used by the division are discussed. These materials are detailed according to explosive limits, flash points, permissible concentrations, toxicity, treatments and antidotes, storage and handling procedures, personal protection, etc.

Information sheets developed under the direction of the Eaton staff are released to all divisions for use by supervision, nurses, plant protection forces.

During these meetings, the safety director also exhibits safety films and other visual aids. He also acquaints supervisors with current division accident and compensation rates and other facts, stressing current records and comparing local experience with that of other Eaton divisions as well as the industry as a whole.

Each month, actual review demonstrations are given on the use of resuscitation. Even those thoroughly familiar with the techniques receive brush-up instruction.

In addition to basic safety instruction, supervisors are briefed on safe handling techniques, storage and housekeeping practices,

All work stations are clearly illuminated. For efficiency during snag grinding, a skid bin is located adjacent to workers, eliminating bending or lifting. Notice also dust-arresting pipes, goggles, belts, etc.

and other general plant activities whose effective administration contributes to over-all safety.

Indoctrination of new employees is a specified activity. First, the employee receives a complete physical examination, including x-rays. Following his write-up in the employment office, he meets the safety director who explains the safety program in detail, sells him a pair of safety shoes and fits him with the type of eye protection required on his job. In addition, rules are explained, safety booklets are distributed, and first-aid procedure explained. During this interview, the employee is encouraged to ask questions.

The employee is then taken to his supervisor who explains specific safety problems of the department. Here, foreman-workman relationship gets off to a good start.

In the first aid dispensary, registered nurses provide a vital link in the program. One of their responsibilities is counseling employees on health matters. In addition, they promote the sale of safety shoes, keep goggles adjusted, and offer many personal services which have developed excellent cooperation among employees. Records are kept on a daily basis by the nurses who see to it that employees and supervisors complete accident investigation and other forms.

Every disabling injury is case numbered and a special report is published immediately by the safety department. All supervision, service departments and staff members get a copy of this report which details the case and recommends preventive measures based on investigation.

A monthly injury report is published in three sections recording the total plant performance, a breakdown of departmental cost, and a specific injury compilation. This report shows performance as compared to an established standard of operations for the month and year to date, as well as for the previous year.

Actually, the safety department makes a departmental breakdown report on frequency, severity and cost, giving pertinent comment on performance and constructive criticism for future improvement.

Good housekeeping inspection tours by the safety committee are made for the purpose of monthly meeting discussions, and the supervisors' attention is called to certain items by the safety director.

Minutes of all safety committee meetings are published and distributed to supervisors, service departments and staff.

Fire reports are written and

—*To page 119*

Seek U.S. Aid in Organizing for Safety

This smiling safety group from Germany is caught in a happy moment during visit to NSC headquarters. At rear, from left: Johann A. Hoffman, Friedrich W. Gosselk, Willi O. Nisler, Walter R. Klost, Walter W. Garbe, Karl A. Tramm, Dr. Gerhard F. Schmidt, Dr. Arthur E. Wegener. Victor C. Salazar (far right) of U.S. Foreign Operations Administration was host and guide to the group during their tour. In left foreground: Otto H. Zeier. Three women in right foreground are interpreters. From left: Mrs. Charlotte Starick, Miss Ingeborg Wichmann, and Mrs. Herta Mueller. Mrs. Mueller is with the Foreign Service Institute, Washington, D. C.

JUDGING from the enthusiasm and sincerity of a German safety group during their recent trip to this country, America is not the only nation concerned by the annual toll of injury and death exacted by accidents.

Germany's safety emissaries displayed an interest, throughout their six-week tour, which would seem to support the belief that safety has a universal appeal.

The visitors, all from Berlin, didn't have an idle moment. They toured many plants to observe, first hand, industrial safety in this country. At NSC headquarters the German visitors heard a resume of Council progress, present activities and future plans. Several key staff members gave advice on the administrative aspect of setting up a safety council.

Harold C. Zulauf, chief, Management, Distribution and Engineering Service, Foreign Office Administration in Germany, played an important part in arranging the group's trip to this country. He is a former member of NSC Board of Directors.

During the 41st National Safety Congress, the German group sat in on about 40 separate sessions, which covered many phases of America's safety movement. As industrial safety leaders spoke, interpreters made simultaneous translations picked up by earphones worn by the German delegates.

Arthur Wegener, spokesman for the group, expressed pride in the success of Germany's rebuilding program. After a disastrous war, Germany is busy restoring her cities and industrial centers.

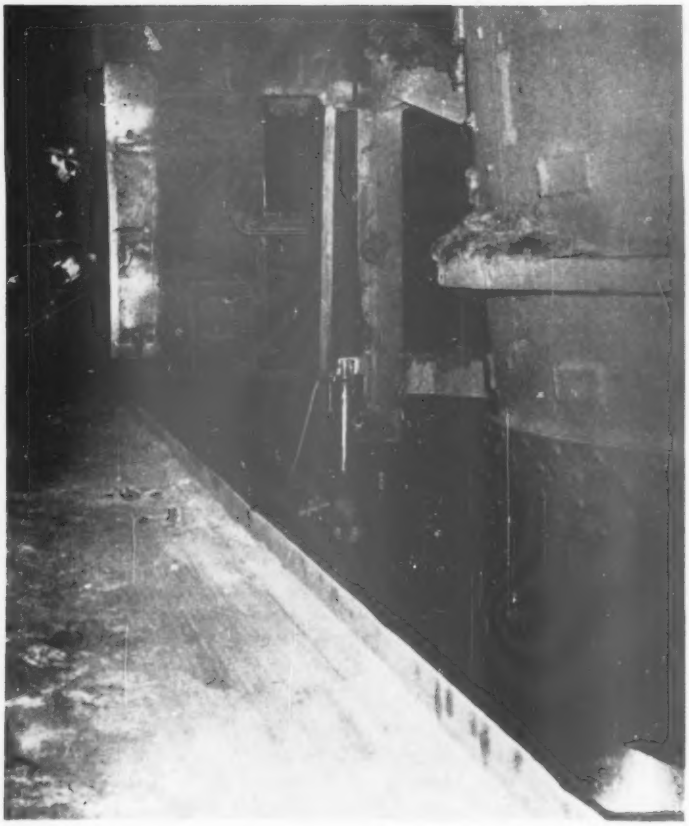


Figure 2. The crack in this crane hook was thought to be in a repaired area. Laboratory inspection with magnetic powder revealed additional cracks.

Figure 1. The autopour, which permits remote control in pouring, reduces splashing and loss of steel as well as hazards of operation.

Using Electronics in Plant Operations

By W. A. BLACK

MANAGEMENT is often reluctant to approve expenditures based on safety alone. The safety engineer, on the other hand, can offer no positive assurance that the expenditure will be an absolute guarantee against accidents. For that reason he must sometimes accomplish his purpose by devious routes. To acquire improvements, he must also develop statistics on the production benefits to be derived from the new safety device or method.

The reflectoscope is a notable example of how safety and profit can be related. The instrument is so vital to safety in heavy industry that sales on the basis of safety alone might be expected to form a large part of the business. However, probably 90 per cent of the 600 reflectoscopes in industry were sold primarily on their potential earning power in operation and maintenance.

Many of these purchases have resulted in raising the safety level in operations, although they were not bought primarily for that purpose. Perhaps the most impressive illustration of my point to be found in industry is the inspection of a huge engine, by the reflectoscope, in the Cleveland District of the Republic Steel Corp. last year. A 25,000 hp. steam engine, the very heart of a tremendous steel district, the bottleneck through which steel must flow at the rate of more than

W. A. BLACK is Chief Electrical Engineer, Steel and Tubes Division, Republic Steel Corp., Cleveland, Ohio. This article has been adapted from a paper presented at the Session on Electronic Inspection and Testing of Equipment, 41st National Safety Congress.

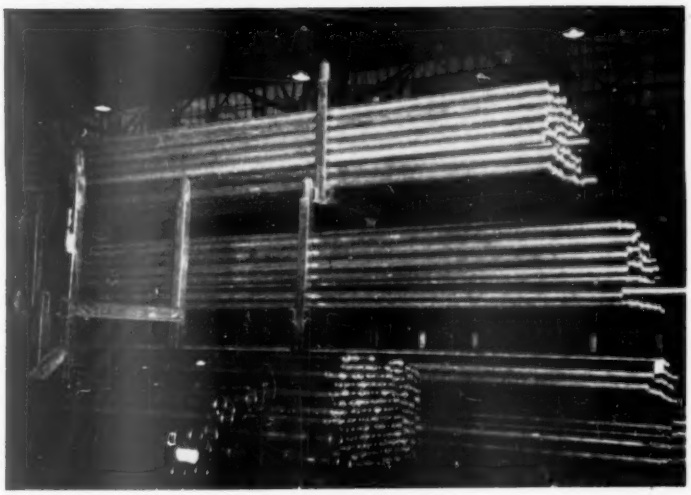


Figure 3. These racks for heavy tubing are subjected to severe strains. Electronic non-destructive tests revealed cracks in vital areas and led to improved design.

150,000 tons per month, was under suspicion. Small cracks had been found in the crankpin of the crankshaft.

Routine weekly inspections with the reflectoscope had been established. The purpose of this procedure was to avoid breakdowns of the engine and the loss of production. Prevention of bodily injury to personnel was initially of secondary importance. The objective was, primarily, commercial advancement. Safety improvement was an extra bonus rather than a major factor.

The engine had at first appeared to be in excellent condition. The maintenance crew had performed the usual inspection routine. Bearing caps had been removed, alignment checked, and wear measured. Nothing appeared to be amiss, even to the experienced eyes of the crew and the stationary engineer. But the ultrasonic test, the last step in the checkup, showed that deep in the heart of the engine, trouble was brewing. The long, sensitive fingers of the reflectoscope revealed two stress cracks in a location completely covered by the crankthrow and not susceptible to visual or surface inspection. Of all the test methods available to the mill maintenance men the only one that had a chance of finding these harbingers of disaster was the ultrasonic test.

—To page 60

Figure 4. Seam depth indicator used for inspecting pipe couplings. This method can replace the expensive and potentially dangerous hydrostatic tests.

Figure 5. Determination of the wall thickness of tubes and pipes can be determined reliably by ultrasonic devices. One of these is the audigage, shown below.

THE SAFETY VALVE

Who Wrote It?

THE GEM of safety thought on the cover came to us on a poster from the British Columbia Workmen's Compensation Board. It was attributed to John Ruskin (1819-1900), author, art critic and social reformer.

Knowing from embarrassing experience that somebody would be sure to ask the chapter and verse, it seemed desirable to verify the quote. So far, several learned persons have tried without success to locate it among Ruskin's writings. However, the consensus at NSC was that it was good enough to publish without a famous name appended.

On the Home Front

HAD ANY BIDS on jobs around the house lately?

If you have, you were probably staggered by the cost and discouraged by the difficulty of finding anybody who wanted to take on the job. The skilled handyman is practically extinct and contractors don't want any job smaller than building a new house or completely remodeling an old one.

So the lumber yard and hardware store are doing a good volume of business with the home owner who has gone in for "do-it-yourself." He is saving money and enjoying it—except such tiresome chores as washing windows and putting up and taking down screens and storm windows. The golf course is seeing less of him these days.

But the insurance companies don't regard this trend as an unmixed blessing. Like the National Safety Council, they are fond of digging up disturbing statistics and home repair work seems to be fraught with all kinds of perils. American Mutual's Institute for Safer Living recently completed a survey which shows that each year some 638,000 persons in the U.S.A. suffer disabling injuries while working around the house.

Most of the victims, the survey points out, are among families living in single dwellings. These account for about 63 per cent of the total population, yet suffer 90 per cent of all home accidents.

Making furniture, it appears, is a most hazardous hobby. It results in more than 180,000 injuries annually. General carpentry work accounted for 72,000 accidents during one 12-month period. Tools, hand and power, were involved in 252,000 cases.

Other activities accounting for large numbers of accidental injuries include replacing broken window panes, exterior and interior decorating, putting up and taking down screens and storm windows, repairing chimneys, putting up TV aerials, pruning trees, and repairing roofs and gutters.

Of the more than 600,000 "fix-it" accidents recorded, 386,000 fell into classifications which would involve use of a ladder. Having observed some of the ladders my neighbors use, I can quite believe it. As for myself, working for NSC has made me ladder conscious and I've got more of them around the place than anybody outside the contracting business. All are in serviceable condition as of this date. (Wish the contractor's insurance company could have seen the ladders his men were using when they put asbestos siding on the house.)

Tools and equipment figuring in most of these accidents were found to be either misused or mechanically defective, the report adds—almost superfluously.

This bulletin follows up one from the Safer Living Institute quoted a few issues back warning us middle-aged guys about over exertion.

* * *

The January S-V really should have an inspirational New Year's piece. But nothing inspired came from the typewriter. I can sympathize with ministers who have to prepare seasonal sermons year after year. So about all I can do is wish each of you a Happy New Year and hope you will win that safety trophy you're working for.

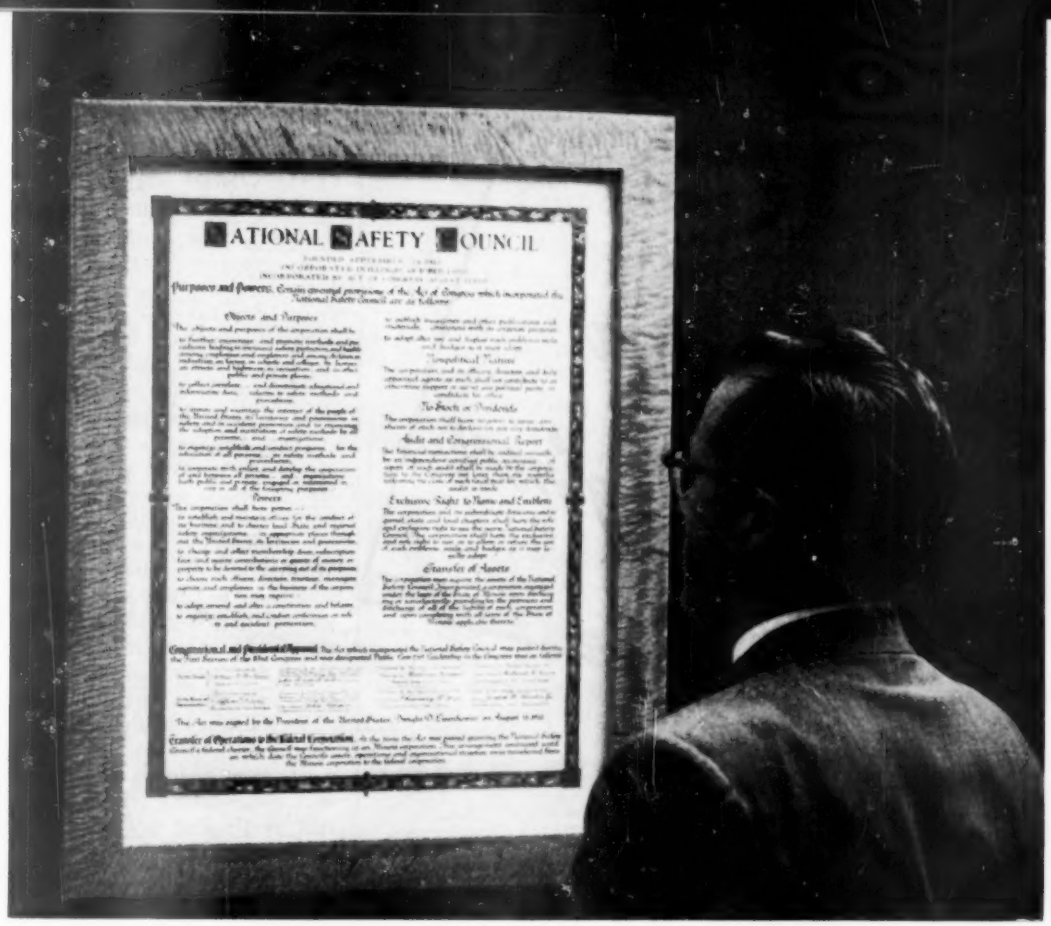
In This Issue . . .

FROM ALL PARTS of the world (outside the Iron Curtain) the National Safety Council is receiving reports of safety activity. Two more countries are represented in this issue. Organized almost at the same time as the National Safety Council was the Prevention of Accidents Committee of the Transvaal Chamber of Mines. We extend greetings and congratulations on its fortieth anniversary. (Page 18.) And from Japan comes a story of safety progress in a large shipyard. (Page 34.)

* * *

There are some fine spiritual overtones in this month's *Diary of a Safety Engineer*, with its thoughtful reflections on human relationships in industry. The author, Bill Andrews, formerly editorial director for the Council, was recently ordained a deacon of the Episcopal Church and is continuing his studies toward priesthood while in charge of a parish at Roundup, Montana.

Carman Fish



First sight to greet visitors to National Safety Council headquarters will be this illuminated parchment, representing the new Federal Charter under which the Council now operates.

Notice to Members of the National Safety Council An Illinois Not-for-Profit Corporation:

MEMBERS OF THE COUNCIL were notified November 4, 1953, of a special Council meeting to be held in New York, December 15, 1953, for the purpose of considering and acting upon the dissolution of the corporation and the adoption of a plan of distribution, the effect of which was to transfer the assets and liabilities of the corporation, as well as its members, officers, and employees to the federally incorporated National Safety Council.

The special Council meeting was held, as announced, and favorable action was taken with regard to the dissolution and transfer. The effective date for the transfer was established as January 1, 1954. Formal dissolution of the Illinois corporation will take place shortly after that date.

The effect of this action, together with corollary actions taken by the Incorporators and the Board of Directors of the federal corporation will be that, effective January 1, 1954, the National Safety Council's entire structure will be transferred from its status as an Illinois corporation to that of a federal corporation.

R. L. FORNEY,
Secretary

Love Ye Therefore The Stranger

(Fiction)

By BILL ANDREWS

January 4, 1954

I BEGAN THE WORK year this morning at our Galeston plant. I was there because of a New Year's Resolution made in all solemnity and sobriety on New Year's Eve.

Sitting in a corner at the start of what became a noisy party, I had resolved to make my first job of the year one of tackling a headache which I had been evading. Then, on Sunday, our parson preached on the text, out of Deuteronomy, "Love ye therefore the stranger: for ye were strangers in the land of Egypt."

I thought, as he spoke, of my first days in the main plant at Broston, the isolated stranger, finding myself the target for antagonism, doubt and suspicion. I remembered the loneliness of those first tours of the plant, when the departments were all strange, when even the foremen did not know me, did not trust me.

And then I thought of the time, after I was able to find friends and allies in the main plant where I was beginning to belong, to be trusted, the first of the snarling hassles began with the people at Galeston.

Galeston is almost entirely an assembly plant, lying in southern Indiana, perhaps 150 miles from the main plant. Since I joined Jackson Barnes six years ago, Galeston has had three superintendents. None of them has actively cooperated with the safety program of the company. The accident rate has run higher than company average in both frequency and severity, despite a preponderance of the lighter operations. We even had one fatal there.

There has been a long record of f.'ction — even my assistant, Harry, who is as gentle a guy as could survive in this business, found himself in a nasty row on his first visit to Galeston. We've both come to hate our routine inspection trips there, and I've probably done more surly snarling about that setup than about any other part of the company.

As I listened to the sermon, I remembered that my biting comments about Galeston usually produce a sympathetic reaction in top staff meetings at the home office. Accounting has always been stewing about the methods and practices of the Galeston office. Spoilage rates have always been high. Our chief inspector once sent a man down there, and he was clouted on the jaw by a foreman during a push to get out a big order on a night shift, because he rejected some pump assemblies that would have completed the rush order.

So, an an average of once every two years, irritations and frictions have built to the point where the current Galeston super was fired or transferred.

"Love ye therefore the stranger: for ye were strangers in the land of Egypt."

The words bit deep. Actually, what our preacher was hitting at was something in the area of international relations, but to me the sermon was the stimulus to rethinking the problems of Galeston. So I completed the open-ended resolution of New Year's Eve by deciding that Galeston was the unpleasant issue to be faced first—that these were the strangers whom I had come to detest, whom I ought to try to love.

The present super, Black, is about my age. He is a Galeston product, the first local foreman to move up to the top spot. He was cooperative once, a man who was disposed to go along with our ideas, a guy a little like our president, Larson, without any flashes of brilliance, but with a lot of quiet strength and common sense.

But two years as super have changed him. He greeted me this morning with a hard, skeptical smile on tight lips. His hands drummed on the desk nervously, he barked replies to the frequent phone calls.

"What brings you here?" he asked. "What are we doing wrong now?"

"I didn't come to beef," I replied. "I came to see if I could help you any."

The laugh he uttered wasn't pleasant. "I got a lot of people trying to help me. I get helped so blankety blank much that I don't have time to do my job. Why don't you guys from the home office try hiring a super here and letting him be super instead of a stooge who has to stop three times a week to explain what he would have done if he hadn't stopped to explain?"

I shut my teeth hard to hold back the defense of my interventions at Galeston, the interventions that had spotted hazards and suggested corrections.

"You guys," he went on, "come out here looking for ways to make yourselves look good by making us look bad. I'm sick of it. Safety men, cost men, engineering men, personnel men—I'm sick of the whole fat lot of you."

I remembered one fragment of Sunday's sermon, "If the hate has long been held, you cannot expect the stranger to believe that your first offer of love and helpfulness is sincere. You may find rejection and distrust at first—as you rejected and hated when you were a stranger."

So I said, "I think I understand how you feel. Some of us may have been blind and stupid, even self-seeking. But I still say that I want to help, because I've known you a long time, because I know you're a good man, because the troubles here are not your fault.

"You can say that again," he barked—and proceeded to say it again and with much emphasis

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Comes the New Year

AS WE APPROACH the coming year, perhaps it behooves us to lean back and compare our lot with this time last year.

As we look around in our business life, our home life and our social life, we see many gaps and scars. Gaps difficult to fill and scars difficult to heal, where friends, neighbors and business associates have since departed or been hurt. Of course, we can say that everyone is expendable, but it hurts quite a lot to do so.

When we actually stop to consider the human body and the wisp of something we cannot quite comprehend that sparks it, we find that it is truly a delicate mechanism. It can be snuffed out or mangled with little effort. When we observe the massive inanimate objects all around us, and the heavens and universe which appear to be unending, we realize how small and insignificant we are, as individual human beings. Yet, the insignificant little human being has been able to achieve many miracles.

We are proud of our accomplishments as a nation and as a body of beings. We have achieved mastery over a great bulk of the resources which have been given us, and our production records and our standard of living are indeed envious. However, our big danger in many instances, comes from our own doings.

"Thou Shalt Not Kill," is a law with which we are all familiar. Yet, legal mayhem exists, no matter where we look.

When an employee is put on a job which involves dangerous possibilities, without adequate training or control measures, aren't we violating the intent of this law?

When we drive an automobile at excessive speeds, without regard for weather conditions or other motorists, or allow our children to drive without proper indoctrination and controls, aren't we violating the intent of that law?

When we set unsafe examples for our children and other people, particularly when we know better aren't we violating the moral intent of that law?

When we take chances to save a little time or because we are too lazy to do it the "right way," aren't we violating the intent of that law?

Hell, "Russian Roulette" is a piker's game—using just a revolver with a shell in it. Instead of a revolver, we play the game with high powered automobiles, high speed machine tools, defective materials or equipment, or in the sportiest way yet—sending the untrained, innocent or unwary to grapple with something we could have warned them about.

In order that we may be around next year, to make similar observations, how about incorporating some of these considerations into our "New Year's Resolutions?"

ROBERT D. GIDEL, *Senior Engineer,*
Industrial Department, National Safety Council

Transportation and manufacturing use vast quantities of flammable liquids. Here the crew of a Richfield Refinery fire truck put out a gasoline fire in 35 seconds in a demonstration at Wilmington, Calif. The truck has three separate fire-fighting mechanisms—dry chemical, foam, and water. These can be used individually or in combination. (Ansul Chemical Co. photo)

FIRE PROTECTION Can't Stand Still

By MATHEW M. BRAIDECH

Decentralization moves plants beyond city water mains. Mass production calls for large undivided areas. And there is also the possibility of military action. All of these emphasize the need for improved techniques

THE DESTRUCTION of nearly 200 manufacturing and mercantile establishments per day by fire and explosion warrants greater attention in fire safety by everyone interested in our national well-being. Our rapidly advancing technology has been accompanied by conditions which tend to multiply the risk of hazard and also promote the severity of fire and gross destruction. This has been brought about by extraordinary expansion and heavier fire loading in terms of larger building units with greatly extended areas and high concentration of costly manufacturing equipment and stock inventories.

The full gravity of this loss potential is not ordinarily appreciated and the cardinal importance of suitable fire prevention programs and adequate fire protection facilities may thereby be overlooked. The recent multi-million dollar epoch-making fire at the General Motors Hydramatic Transmission Plant provides forcible emphasis in this regard. This has been recorded as the largest single property loss in insurance history, with over-all loss estimates exceeding $50,000,000. This loss exceeded the sum total of more than 80 largest industrial fires and explosions experienced during 1952.

Such catastrophic damage should impel those in control to a fuller realization of the insidious nature of fires and explosions and their large-scale destructiveness. Appreciation must also be instilled for the true value of a safeguarding program based on recognized

MATHEW M. BRAIDECH is Director of Research, National Board of Fire Underwriters, New York City. This article has been condensed from an address at the Forty-first National Safety Congress.

standards and good practice recommendations of responsible technical bodies. Such provisions should be accepted in our various industries and commercial establishments as an operating function on equal footing to production and sales.

Although most fires and explosions are accidental in nature and generally result as unplanned and unexpected occurrences, many have been known to have been predictable. Tendencies to minimize and discount similar happenings, by virtue of their seeming remoteness, through so-called "calculated risk," have also been noted on other occasions. Such hunches cannot be calculated despite slide rules and electronic brains. They should, at best, be regarded as products of loose thinking and fallacious subterfuges.

Preservation of life and wealth in terms of property and capital investment calls for a realistic fire safety consciousness. Fires will occur as long as we have human failure and improper equipment and faulty operation of processes. The possibility of error or thoughtlessness, overlooked unsafe conditions and other human acts of omission require the anticipation of emergencies and a proper degree of preparedness. The probability of fire or explosion resulting in a *partial* loss should never be permitted to enter into the fire safety planning program. Preparing for the extreme potential will promote fuller appreciation of the hazards and permit scaling down effective operations to meet any relatively lesser emergency. By the same token, it may be rationalized that the probability of occurrence and extent of damage by fire and explosion is inversely proportional to the safety measures instituted and to the degree of organized preparedness.

No two fires are alike. Every individual fire might be regarded as a "tub on its own bottom." A thousand different situations of fire and explosion have been found involving ordinary combustibles and flammable liquids and their vapors, gases and dusts, including pressure rupture and vacuum collapse of equipment.

A single fire, if not quickly detected and promptly controlled or extinguished, might destroy in a few minutes what will require months and years to restore or rebuild.

The damageability of fires is not limited to "burning." Other equally serious destructive effects may be associated, such as smoke and water damage, spoilage by contamination and exposure to the elements (rain, sleet, snow, etc.), breakage due to falling debris and structural collapse, thermal deformation and distortion of precision machinery. These reflect a loss of many man-hours of productive effort. To this damage must be added the loss of vital business records, engineering data, dislocation and transfer of skills and trained workers. There are other indirect losses, such as loss of good will and sales prestige in a competitive market, and the inconvenience of rebuilding and replacing machinery.

A relatively minor blaze can grow, in a matter of minutes, from incipiency to an overwhelming major blaze, entirely out of control. Fire authorities know that a small fire may triple its size in one to two minutes, increase tenfold in an additional length of time, and quickly reach a size fifty or perhaps one hundred times the original size in a matter of ten or fifteen minutes.

In actual full-sized fires, many factors can contribute materially to a progressive and sweeping fire. These include fuel-feeding in advance of flame by destructive distillation of combustibles through radiant heat and thermal conduction through metal parts and framework, along with contribution of secondary fuels through collapse of structures. To these must be added such large-scale control factors as inferior building construction, lack of exposure protection and unprotected vertical openings, large undivided areas, heavy loading of combustible contents, and lack of segregation or isolation of hazardous operations.

A full understanding of the cir-

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the LIGHTER SIDE
NATIONAL SAFETY COUNCIL
SOMEBODY OUGHT TO PUT SOME SALT OR SAND ON THAT SPOT— IT LOOKS SLIPPERY!
NO SMOKING
THIS ATOMIC BOMB SCARES ME —WE COULD GET BLOWN UP, YA KNOW!
FLAMMABLE
COVER WITH ASHES IN ICY WEATHER

Washroom supplies are no small item in a department's budget. Here is a day's supplies for one department: 5 boxes powdered soap, 8 bars hand soap, 4 jars hand cleaner and 25 rolls paper towels.

Dollars for Cleanliness

Here is a practical program for combatting sickness and disease with personal cleanliness

PEOPLE enjoy keeping clean. Cleanliness is second-nature to most of us. And, at Olin Industries, Inc., in East Alton, Ill., management and workers do their best to prove this. Olin reports, in the main plant alone, in one month, they use:

More than 5,000 bars of hand soap
More than 3,400 pounds of powdered hand soap
More than 10 gallons of liquid hand soap
More than 340 jars of hand creams
More than 3,800 rolls and packages of paper towels.

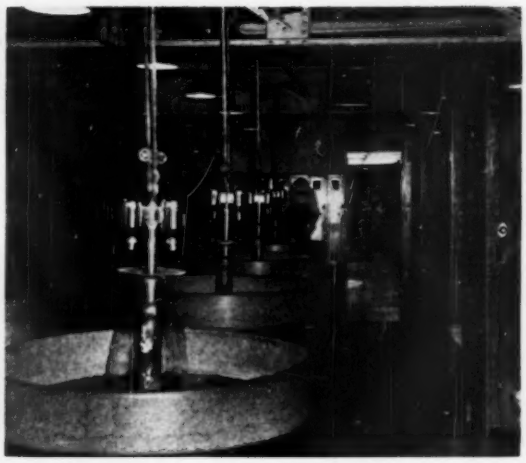
This alone adds up to quite a bill each month, but personal cleanliness is recognized as one of the better ways to keep down sickness and disease. At Olin, necessary soap, water and towels are always available. Facilities for washing is only one of a number of things which have a bearing on whether or not health is maintained.

For instance, water supply is important. Whether work is strenuous or not, everyone must drink water to remain healthy. A person at hard manual work, or working exposed to excessive heat, necessarily consumes more water. Intake of too little water slows up the elimination of waste products from the body. This in turn can cause irritation of the kidneys and skin when they are called upon to eliminate more concentrated waste products. Drinking plenty of good water is important.

To assure Olin employees of a continuous supply of good drinking water, they have a modern filtration plant. Licensed operators are on duty 24 hours a day, seven

Some persons have tough skins and nothing seems to bother them. Others are sensitive to some dusts and vapors. Massaging cream on face and neck before going on the job offers protection against many irritants.

Keeping water that comes from drinking fountains clear and pure requires constant watchfulness at the filtration plant. Here a laboratory technician is making a filtration test.



One of the washrooms in the brass mill at the Olin plant. With facilities like these men can have a thorough wash up and change of clothes before going home. Shower facilities are located in an adjoining room.

days a week, making various tests and checks to make certain Olin's water supply is free from contamination. The filtration operators have a great responsibility and play an important part in the Olin health maintenance program.

Adequate toilet facilities are another must in a modern plant. It is a big job to maintain facilities for several thousand people instead of just for a family. The initial cost of installing these facilities is tremendous but the daily supplies, repairs, and labor cost for keeping them clean soon adds up to more than this initial expense. Keeping a large plant up-to-date runs into money.

Some workers can eat their lunches at their place of work. But others, due to the nature of work performed or materials handled, must eat at a location away from their work. Modern locations are provided where Olin employees may eat their lunches or buy a hot meal. Locations are also provided for departments away from the main plant. These employees have the same choice of food and a chance to sit down and eat in a clean spot away from their work.

Several departments provide coveralls or uniforms to protect the employees' own clothes. These employees are provided with plenty

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Most women can't endure having their hands or face dirty for any length of time and clean rest rooms are particularly important where women are employed.

The plant cafeterias offer a wide selection of good food for employees to choose from. A well-balanced diet and a chance to sit down and eat a good meal away from the job do a lot for individual well being.

Scene at Innoshima shipyard. In the foreground is the steam tanker "Genie."

It's Not Long Way to Safety

By HIDEO KUWABARA

In Japan, as in the Western world, recognized safety methods are bringing down industrial accident rates

THIS is a story of the brilliant safety record established by a large shipbuilding company in Japan who turned its safety status in less than two years from the worst to the best in its field.

It is especially impressive when I think of the enthusiasm and hearty cooperation, shown by every executive and worker toward safety movement which, starting two years ago, promoted our safety level from the poorest to the best that is well equal to or even better than that of in U.S.A. (Note: Accident rate of this company in 1951 was 121, which was improved to 15.1 in 8 month average of 1953 term.)

Before talking about our experience, now let us introduce the outline of the company in brief:

Hitachi Shipbuilding & Engineering Co., Ltd.
Head Office: Osaka, Japan.
Shipyards: Five in all, two in Osaka and three in other places.
Capital: Y 3,160,000,000 (Appr. $8,777,777)
Number of Employees: 15,000
Production Capacity:
Shipbuilding (new) .....75,000 Gross ton/year
Remodeling .....1,565,000 Gross ton/year
Diesel Engines .....35,000 HP/year
Iron Girders and other Industrial Machinery .....22,000 tons year
(Note: The capacity here mentioned is the second in this field in Japan.)

One day in May 1951 when I was contemplating on management rationalization, I happened to see an industrial accident statistics compiled by Japan Shipbuilders Association, and found the figures of ours were the greatest.

Then, I called a clerk and asked, "What on earth do these figures mean?"

"That's the poorest of all, sir." said the clerk.

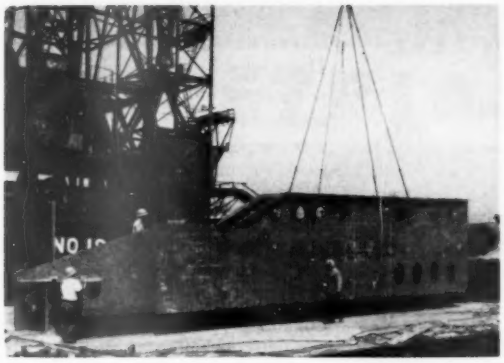
"What did you say?" I protested, "You mean we are the worst of all competitors?"

"Sure, sir, as far as safety is concerned," he replied.

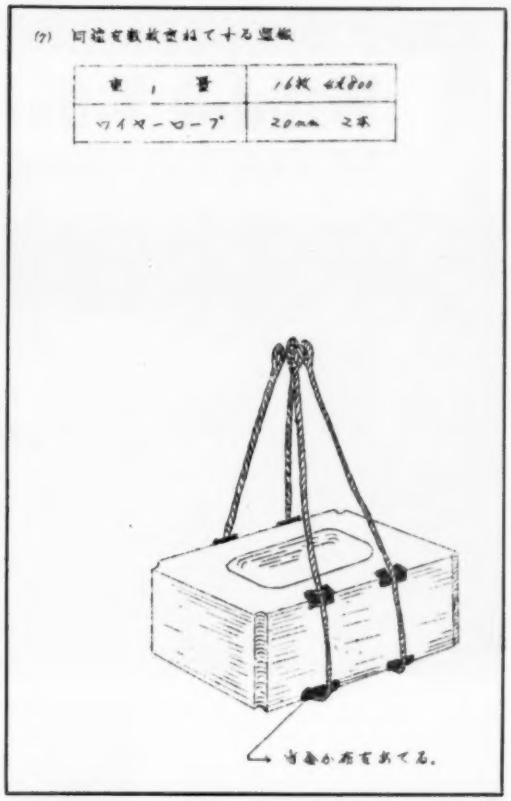
It was indeed a hard hit to me who had believed his company one of the best shipbuilders in this country both in name and reality. Instantly, I was determined and sweared to myself that something must be done at once to promote safety for the sake of humanity as well as improved management. I thought it ought not be the way for a management to let workers with sound bodies in the morning return to their homes with hands and legs lost in the evening.

A few days later, I made personal investigation over the accident situations in our plants, and was greatly astonished to see how

HIDEO KUWABARA is General Director, Hitachi Shipbuilding & Engineering Company Ltd., Osaka, Japan.



The huge loads which must be lifted in shipbuilding demand care in the selection, use and maintenance of wire rope slings. Hard hats are now worn by Japanese shipyard workers.



A specimen page of the company's booklet, "Standard Methods of Transportation," which contains instruction on use of slings and other handling equipment.

many workers were suffering injuries on their jobs every month.

In July, 1951, I proposed at the conference of Board of Directors to place full time safety men in every plant as the motive power of plant safety. Various obstacles, however, prevented my proposal at first. Nevertheless, I redoubled my efforts in the belief that it was the vital part of mine to persuade directors of the program.

Finally, it was adopted and carried into force around August same year. It was the first victory to the goal, for especially in this company, the Board of Directors is the origin of policies, and is hard to move, but once it agrees, it should go straight forward until the purpose is reached at.

The 15th day of October 1951 is commemorable for us as the initial day of safety campaign with new sense. The outline of our safety constitution newly started was as following:

First, we set up a Special Safety Control Team in the planning department in the head office. The Team, headed by planning department chief, controls entire safety movement including five plants. Besides, in every plant, safety section was created, with full responsibility to plant superintendent. At the same time, the general director was appointed safety director responsible to entire safety program.

The arrangement was thus over. Then, the safety records in each plant were reported directly to the Monthly Conference of Board of Directors, and the latter was to issue appropriate directions to the safety director.

THE RESULT

	Before Movement		*After Movement*
Frequency rate of disabling accidents	in '51....121	in '52....57.1	in '53....15.1 (8 months ave.)
Total days lost.....	in '51 50,572 days	in '52 26,638 days	in '53....7,876 days (total of 8 months)

(Note: With this rate, total days to be lost in this year is estimated at 11,808 days, less than half previous one. Also, the tendency of accident rate, indicating marked decline, is expected to bring about new record, below 10.)

(Note: Accident frequency rate of Japan's shipbuilding industry in 1952 is 56.3, that is slightly lower than that of this company, but 3.7 times over the present one.)

What We Have Done

Contest:

At the first safety conference, we agreed to hold safety contest including five plants. As to the setting up of contest target, however, we were extremely attentive about the practicability of the same so that employees in each plant where situations differed considerably, could cooperate with each other and the program be led successfully.

Then, we informed all workers

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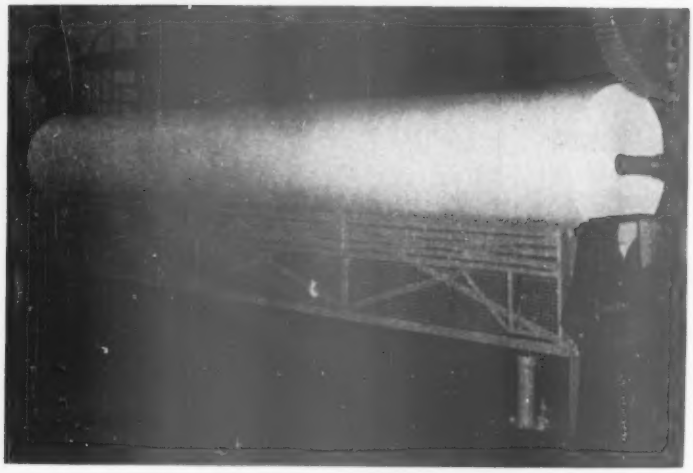
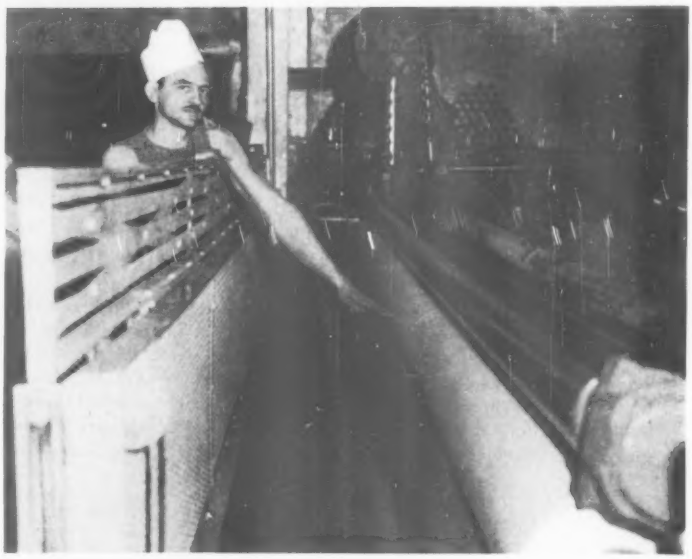
Our Experience with Winder Guards

By JULIUS A. DRAPER



Guard in down position. Note cable attached to floor at base of cylinder. When air pressure raises main guard, resulting tension on cable pulls auxiliary guard up in guides on main guard.



Winder guard in up position. Note distances from top of guard to nip point. Pulley is mounted on main guard (lower left, out of focus) and auxiliary guard slides up and down in slots on main guard.

A FEW YEARS AGO National Safety Council statistics showed nip points on paper machine winders and rewinders were the cause of more accidents than occurred on any other machine in the industry.

Since that time it has been general practice to provide a guard in front of the nip between the drum and the winding roll of paper. These guards have reduced the incidence of such accidents in great measure. But nip point winder accidents have not been eliminated. In 1951 we had a young man lose an arm above the elbow on a winder equipped with what we had considered to be a good guard. In 1946 we had a fatal accident on a Cameron winder, also guarded. In 1952 there were two fatal nip point accidents on winders in the province of Quebec, and just recently, in 1953, an arm was lost at the shoulder at a winder nip.

These experiences have convinced us that such accidents will occur so long as it is possible for a hand to reach the inrunning nip. There may be an interval of many years in an individual mill between accidents of this nature, some mills may seem to have escaped altogether, but as long as the possibility exists, we are relying on the human factor and our luck.

After long study and trial a new type of winder guard was finally developed by our Port Alfred Engineering Department and the accompanying photographs show this guard installed on their No. 1-231-inch news machine. This protective device has been in use since May 1953 and has received enthusiastic endorsement by the entire machine room personnel at this Division as well as visitors to Port Alfred from other mills in the industry. It fulfills the requirements of simplicity and effectiveness.

The air cylinders are 3-inch diameter inside. Air orifice to each cylinder is large enough at 1/8 inch diameter. Operation is by way of three-way cock at side of machine. The main guard slides up in fixed guides. The pulleys carrying wire rope for actuating the auxiliary guard are mounted on the main guard. The auxiliary guard slides up between guides that are attached to the main guard.

JULIUS A. DRAPER is Director of Safety, Consolidated Paper Corp., Limited, Grand'mere, Quebec.

INDUSTRIAL HEALTH

Abstracts of current literature on Industrial Hygiene, Medicine, and Nursing

BY F. A. VAN ATTA
Industrial Department, NSC

Ulcers Among Pilots

The Incidence of Peptic Ulcer and Chronic Gastritis Among Swedish Sea Pilots, by Tore Dalhamm. The British Journal of Industrial Medicine 10:157-163 (July, 1953).

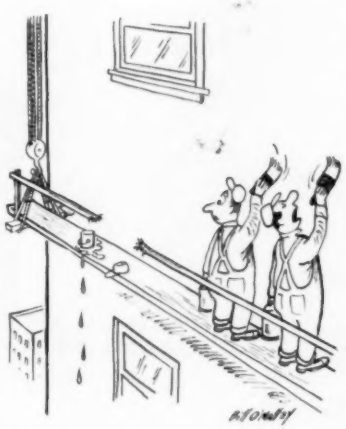
THE CAUSE of peptic ulcer has been a subject of debate. Among the possible causes have been mentioned irregular meals and harassing work as possibilities. A study was made of 416 Swedish pilots. There are six pilot duty districts in Sweden with 83 stations but because of the nature of the work the pilots serve generally at only one station. One of the men must always be in or near the pilots' watchroom to be ready to go at a moment's notice. The other pilots on the station follow in the list as second or third men and so forth. On busy stations the second and third men are also forced to remain on the watch station. As the work comes out the pilots often are on duty for two or three days with only a few hours of sleep.

Pilots on the active list were all sent a questionnaire in which they were asked whether they had been in a hospital or had consulted a physician for any gastric trouble. If they replied in the affirmative specific information was sought from the physician or from the pilot's sick relief fund. Diagnoses of ulcer were made only on the basis of positive x-ray evidence or of clinical symptoms of ulcer with vomiting of blood.

Among the 416 pilots 40 had had peptic ulcers and among the 40 there were 16 relapses. Thirty-three men had had chronic gastritis. This gives an ulcer rate of 9.6 per cent and chronic gastritis rate of 7.9 per cent for all of the pilots.

There are considerable differences in the burden of work at the different pilot stations. The study compared among the stations by dividing them up according to the statements of the chief pilots as to which were busy and which were less busy. The 32 stations considered to be over-burdened employed 262 men who showed a chronic gastritis incidence of 9.9 per cent and a peptic ulcer incidence of 11.8 per cent. The other group of 51 stations considered to be easier duty employed 154 men who showed 4.5 per cent gastritis and 5.8 per cent peptic ulcer. This difference among the two groups is statistically significant at a 2 per cent level of reliability.

The only comparable groups are two studies in one of which a group of 60,000 males between 15 and 64 years old were found to have 5.8 per cent of peptic ulcers and among a group of 3,058 men a 4 per cent of chronic gastritis was found. These differences from the morbidity among the pilots also seemed to be probably significant. It seems very probable that the exacting duties and irregular hours of the pilot service are a contributing factor in the production of a high rate of peptic ulcers.



"Mac was a good painter but he had a bad habit of standing back to look at his work."

Sound Level Measurement And Hearing Loss

Physical Basis of Hearing Damage and a Tentative Damage Risk Criterion for Steady State Noise, by Howard C. Hardy. The American Medical Association Archives of Industrial Hygiene and Occupational Medicine 8:250-261 (September, 1953).

THERE HAVE BEEN a number of efforts to establish a correlation between sound level measurements and hearing damage, which have generally met with relatively little success. It is now generally accepted that the sound level which causes impairment of hearing varies with the frequency of the sound in some manner. The lower frequencies are generally considered to be less harmful.

In this presentation it is assumed that permanent hearing damage is the consequence of long intermittent fatigue brought on by many successive exposures to loud noise. It is also assumed that the sensation of hearing is a function of the maximum energy stimulus given to the nerve endings and that the fatigue is somewhat similarly related to the maximum stimulus of the nerve ending as in the sensation, in other words that the

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BEFORE:
Milwaukee Erection Shop of Allis-Chalmers Manufacturing Company before relighting. Lighting level was less than 5 footcandles.

STEP NO. 1
Same shop after relighting with a combination of mercury vapor and incandescent lamps. Accident frequency dropped 32 per cent when light was increased to 20 footcandles.

Revolution in Lighting

By E. A. LINSDAY

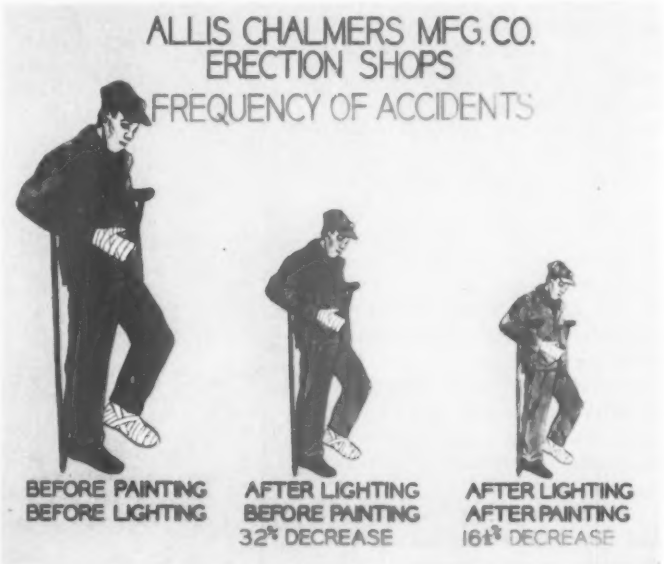
The balanced brightness from modern industrial fixtures permits better seeing along with increased eye comfort

RECENT statistics show that it is now safer to work in an industrial area than around the home. Industry may well be proud of this record. Increased quantity and higher quality lighting for industry has played an important role in accident prevention.

This correlation between light and safety is not a new discovery. Research people have known for some time that as seeing becomes easier, more energy is expended in useful work and less in useless work. Thus, more reserve energy is left, fatigue is reduced, and accident possibilities are minimized.

For example, the Allis Chalmers Manufacturing Company found that accidents dropped 32 per cent in their Milwaukee Erection Shop

E. A. LINSDAY is with General Electric Company, Nela Park, Cleveland, Ohio. This article has been adapted from a paper presented at the 41st National Safety Congress.



Graphic presentation of accident reduction which followed scientific application of paint and light in Allis-Chalmers shop.

STEP NO. 2
Paint conserved light and improved brightness contrasts. Accidents dropped another 16½ per cent.

when the lighting level was increased from five to 20 footcandles. After painting, the accident frequency dropped another 11 per cent. The total decrease in accident rate, after both lighting and painting was 43 per cent. This is dramatic evidence of the effect of improved lighting on accident reduction.

Improved lighting also tends to increase production and reduce spoilage. The Uxbridge Worsted Company in Uxbridge, Mass., noted this correlation. First, the lighting level was raised from 16 footcandles to 32 footcandles. Production went up 4.6 per cent and mending costs dropped 26.5 per cent.

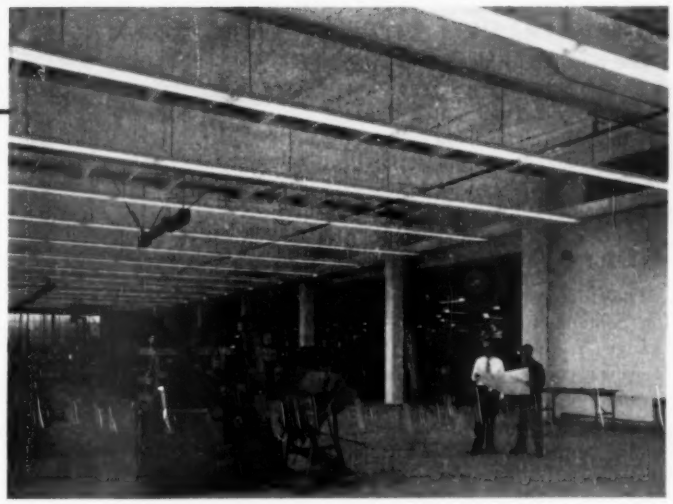
Encouraged by these practical results, Uxbridge management authorized another lighting increase to 52 footcandles. Production went up again—this time 4.1 per cent while mending costs again came down.

The third step, to 70 footcandles produced similar results. So, as a result of these three lighting steps, production went up a total of 10.5 per cent and mending costs went down to 39.6 per cent.

The results of improved lighting illustrated by the above examples in industry were first recognized and practiced in the office and school lighting field. The experience in this field did much to awaken industrial people to the need for improved lighting in industry.

It is gratifying to report, therefore, that a revolution in industrial lighting is resulting. Many industrial areas are now installing lighting systems which rival offices and schools in quality and quantity of illumination. Fixture manufacturers are now making industrial

—*To page 95*



Contrasting areas at Wakefield Brass Co. Light finishes and upward light in foreground avoid shadows seen in background.

Machine shop of L. L. Constantin Co., N. J. Upward light from shielded fixtures provides 75 footcandles of glareless light.

THE ACCIDENT BAROMETER

Prepared by the Statistical Division, National Safety Council

THE DEATH total for September was approximately 7,400, a reduction of 1 per cent from September, 1952. Decreases were reported in deaths from home and occupational accidents. There was a moderate increase in public non-motor-vehicle fatalities while deaths from motor-vehicle accidents numbered about the same as in 1952.

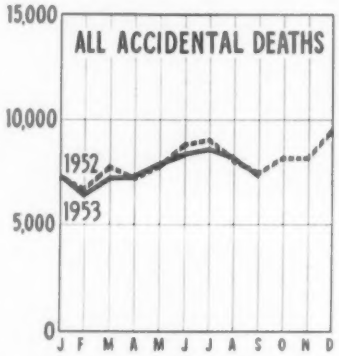
The nine-month death total was about 68,900, or 2 per cent less than the 1952 comparable figure of 70,200. Aside from a small increase in motor-vehicle fatalities, other classes showed decreases from 1952.

Motor-Vehicle Deaths

The motor-vehicle death total for September was 3,300 — no change from September, 1952. However, compared to 1951, it was a reduction of 6 per cent.

Deaths for the nine months totaled approximately 27,420, an increase of 1 per cent over the 1952 comparable figure of 27,030. The nine-month death rate per 100,000,000 vehicle miles was 6.7, a reduction of 3 per cent from the 1952 rate of 6.9.

Of the 44 states reporting for nine months, 25 had more deaths than in 1952, 3 had the same number and 16 had fewer deaths. A total of 457 cities with populations of more than 10,000 reported a reduction of 13 per cent for September but an increase of 3 per cent for the nine-month period.



	1953	1952	Change
September	7,400	7,500	— 1%
Nine Months	68,900	70,200	— 2%

Regional changes from 1952 in the nine-month death totals were:

North Atlantic	+ 6%
South Atlantic	0
North Central	+ 4%
South Central	— 2%
Mountain	0
Pacific	— 4%

Occupational Accidents

Deaths from occupational accidents numbered approximately 1,200, or 200 fewer than in 1952. The total for the nine months was 11,100, a reduction of 1 per cent from 11,200 in 1952.

The September frequency rate per million man-hours for plants in community council contests was 7.95, a decrease of 6 per cent from 1952. The September rate for plants in seventeen National Safety Council Sectional contests was 6.02, a reduction of 7 per cent. The nine-month rate in community council contests was 7.49, a reduction of 11 per cent; in sectional contests it was 6.22, a decrease of 5 per cent.

Public Deaths

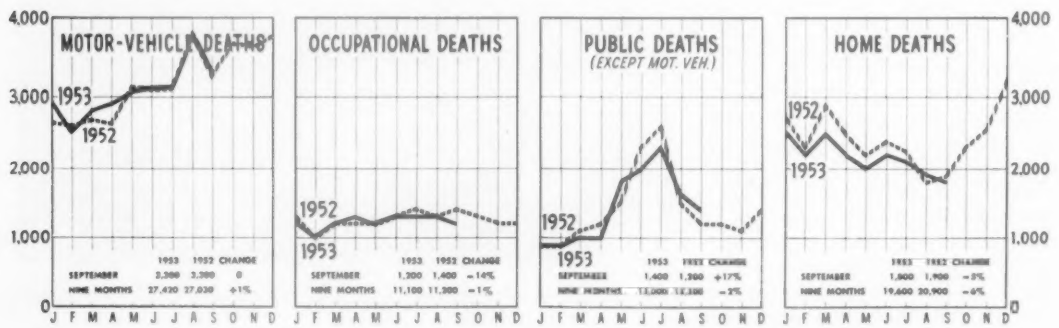
September deaths from public non-motor-vehicle accidents numbered approximately 1,400, or 200 more than occurred in 1952.

The nine-month death total was 13,000, a decrease of 2 per cent from 1952. There were small reductions in deaths from transportation accidents, drownings and unclassified public accidents. Deaths from firearms accidents and falls numbered about the same as in 1952 while deaths from burns were more numerous. All age groups showed some decrease with the largest change recorded for persons 65 years and over.

Home Deaths

The total for home deaths in September was 1,300, or 100 fewer than in 1952.

Deaths during the nine months numbered about 19,600, a reduction of 6 per cent from 1952. There was a moderate decrease in fatal poisonings and small decreases in deaths from burns, mechanical suffocation and falls. Deaths from firearms accidents showed a moderate increase over 1952. Aside from a small increase in deaths of children 5 to 14 years of age, other age groups showed decreases with the greatest improvement recorded for persons 25 to 44 years old.

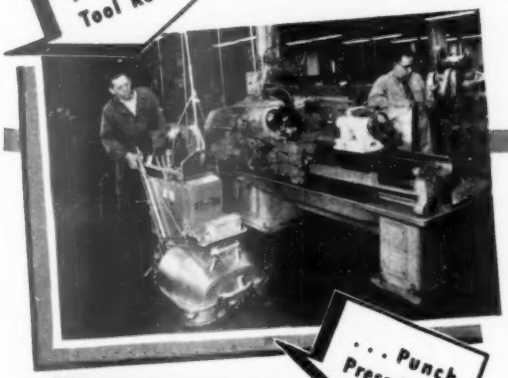


"JOB-FITTED COMBINATION SCRUBBER-VAC

PUTS FLOOR-CLEANING ON PRODUCTION BASIS *throughout our plant"*

— *Says* Superintendent of Maintenance
VICTOR ADDING MACHINE COMPANY, CHICAGO

...In the Tool Room



...Punch Press Room

...Cafeteria and other areas

Victor Adding Machine Company insists on maximum production in floor-cleaning as well as in manufacturing. Like other *production-wise* industrial concerns, *Victor* cleans floors with a *Job-Fitted Combination Scrubber-Vac!* This single unit

Completely Mechanizes Scrubbing

—applies the cleanser, scrubs, flushes if required, and damp-dries the floor—*all in one operation! Job-fitted* to specific needs, a *Scrubber-Vac* provides the maximum brush coverage consistent with the area and arrangement of the floors.

Model 213P, shown in illustrations at left, is designed for heavy duty scrubbing of large-area floors. It has a 26-inch brush spread, and cleans up to 8,750 sq. ft. per hour! *Finnell* makes still larger sizes—in *gasoline* as well as *electric* models—and also sizes for smaller operations. From this complete line, you can choose the *Scrubber-Vac* that will put *your* floor-cleaning on a production basis and reduce labor costs. And you can lease or purchase the machine. Maintenance men like the convenience of working with a *Scrubber-Vac*. This *all-in-one* unit is *self-propelled*, and has a *positive* clutch. There are no switches to set for *fast* or *slow*—slight pressure of the hand on clutch lever adjusts speed to desired rate. The powerful vac performs quietly.

In keeping with the *Finnell* policy of rendering an individualized service, *Finnell maintains a nation-wide staff of floor specialists and engineers. There's a Finnell man near you* to help solve your particular floor-maintenance problems . . . to train your operators in the proper use of *Finnell Job-Fitted Equipment* . . . and to make periodic check-ups. It's also good to know that *Finnell makes everything for floor care!* For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 2201 East St., Elkhart, Ind. Branch Offices in all principal cities of the United States and Canada.

FINNELL SYSTEM, INC.
Originators of Power Scrubbing and Polishing Machines

Everything FINNELL for Floor Care

BRANCHES IN ALL PRINCIPAL CITIES

3D Brings Handling Problem to Theaters

By ROBERT L. MOORE

RECENT developments in motion picture technique—CinemaScope, Cinerama, 3D, etc.—pose a behind-the-scenes safety problem. The new techniques call for larger and heavier film reels, which create a hazard for projectionists and shipping personnel.

With the advent of 3D film, new problems arise in the handling of the film and its container from the lobby to the projection room. Handling of the reels as they are put into and taken from the projector also creates a hazard.

In the movie process called Cinerama, film reels have reached such proportions that they hold 8,000 feet of film. Reels may reach three feet in diameter and weigh as much as 60 pounds.

Normal packaging procedure for film shipment calls for two separate reels in one can, so the load to be handled might run as high as 90 to 100 pounds per container. Regular reels are about 23 inches in diameter and weigh from 35 to 45 pounds. These carry up to 5,000 feet of film.

Larger and heavier reels present a safety engineering problem. There is the danger of strain or hernia exposure in handling the reels and containers.

Handling 3D Film

I. *From Lobby to Projection Room.*

1. Theatre manager should obtain a spare 3D film can, to be kept in his office or in some room near the lobby. When the usher or porter receives the can of film in the lobby, he takes out one reel. This is placed in a newspaper boy sack or similar canvas bag. The one reel and the spare empty can are carried to the projection room. In the projection room, the reel should be immediately taken from the bag and placed in the can. Then he returns to the lobby for the second reel. This is carried in the bag to the booth and placed in the same can with the first reel. Then the can should be closed. A reel should never be allowed to lie on the floor or stand vertically. In addition to the tripping hazard, damage may result to film or reel.

2. A carrying cart is available for moving the cans of film up stairways. The cart consists of two sets of three rubber tires, which allow a direct pull as the

—*To page 70*

A spare 3D film can kept in the manager's office or in some room near the lobby is a back saver. When the usher or porter receives the can of film in the lobby, he opens it and takes out one reel and places it in canvas bag and carries one reel and spare empty can by handle. At projection room, reel is taken out of bag and placed in can. Then he returns to lobby and brings back second reel in bag.

In projection room reels are lifted to approximately eye height to place on spindle of machine. This is aided by the hook (shown at right) and counterweight. The hook holds the reel in place by a spring-loaded arrangement that hooks on one side of reel so that it can be easily unhooked after the reel is engaged on the spindle of the projection machine. A sash weight, slightly lighter than the lightest reel, provides sufficient counterweight to raise the full reel easily to the magazine. Wire rope 3/32" diameter is used.

ROBERT L. MOORE is Director Technical and Engineering Division, Safety Engineering Department, Lumbermens Mutual Casualty Company, Chicago.

first aid for throat irritations

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The use of 'Thantis'® Lozenges puts first things first.

'Thantis' Lozenges relieve pain promptly—reduce infection—act prophylactically.

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COMING EVENTS

In the Field of Safety

Jan. 18-19, Milwaukee, Wis.

Midwinter Conference and Exposition, Wisconsin Council of Safety.

Feb. 10, Dayton, Ohio

Second Annual Miami Valley Safety Conference (Biltmore Hotel). Marvin Purk, manager, Safety Council, Dayton Chamber of Commerce, Biltmore Hotel, Dayton 2, Ohio.

Feb. 11-12, San Francisco

California Industrial Safety Conference. (Palace Hotel). A. C. Blackman, chief, Division of Industrial Safety, Department of Industrial Relations, State of California, 965 Mission St., San Francisco 3.

Mar. 7-9, Louisville, Ky.

Southern Safety Conference and Exposition (Kentucky Hotel). W. L. Groth, executive director, P. O. Box 8927, Richmond 25, Va.

March 10-11, Philadelphia, Pa.

Twentieth Annual Philadelphia Regional Safety and Fire Conference and Exhibit (Bellevue-Stratford Hotel). Walter W. Matthews, managing director, Philadelphia Chamber of Commerce Safety Council, Architects Building, 17th and Sansom Sts., Philadelphia 3.

Mar. 17-18, Indianapolis, Ind.

Central Indiana Safety Conference and Exhibit (Claypool Hotel). Jack E. Gunnell, director, Indianapolis Safety Council, 320 N. Meridian St., Indianapolis 11, Ind.

Mar. 24. Madison, Wis.

Wisconsin Canners' Safety Institute.

Mar. 30-Apr. 1, Pittsburgh, Pa.

Twenty-ninth Annual Western Pennsylvania Safety Engineering Conference and Exhibit (Hotel William Penn). Harry H. Brainerd, executive manager, Western Pennsylvania Safety Council, 605 Park Bldg., Pittsburgh 22, Pa.

Apr. 5-6, Toronto, Ont.

Industrial Accident Prevention Associations, Annual Convention (Royal York Hotel). R. G. D. Anderson, general manager, 600 Bay St., Toronto 2, Ont.

Apr. 6-10, New York

Twenty-fourth Annual Greater New York Safety Conference and Exposition (Statler Hotel). Paul F. Stricker, executive vice-president, Greater New York Safety Council, 60 East 42nd St., New York 17.

Apr. 14-16, Charleston, W. Va.

Twentieth Annual West Virginia Statewide Safety Conference. Charles Hopkins, managing director, West Virginia Safety Council, Inc., 316-17 Masonic Building, Charleston 1, W. Va.

Apr. 14-16, Washington, D.C.

The President's Conference on Occupational Safety. William L. Connolly, director, Bureau of Labor Standards, United States Department of Labor, Washington 25, D.C., or Chas. F. Alexander, manager, Industrial Department, National Safety Council, 425 North Michigan Ave., Chicago 11.

Apr. 20-22, Buffalo, N. Y.

Fourteenth Western New York Safety Conference and Exhibit (Hotel Statler). Eugene C. Hohlstein, executive secretary, Blaw-Knox Co., Buffovak Equipment Div., 1543 Fillmore Ave., Buffalo 11.

Apr. 20-22, Detroit, Mich.

Michigan Safety Conference (Sheraton-Cadillac Hotel). Jerry E. Moore, executive secretary, c/o Corporate Service Inc., 2210 Park Ave., Detroit 1, Mich.

Apr. 20-22, Columbus, Ohio

Twenty-fourth All-Ohio Safety Congress and Exhibit (Deshler-Hilton Hotel). James H. Fluker, superintendent, Division of Safety and Hygiene, Industrial Commission of Ohio, Columbus 15, Ohio.

Apr. 27-28, Fort Wayne, Ind.

Northeastern Indiana Safety Conference and Exposition. Ivan A. Martin, manager, Safety Council, Chamber of Commerce, Fort Wayne 2, Ind.

Apr. 27-29, St. Louis, Mo.

Central States Safety Conference. (Hotel Chase). Reyburn Hoffman, secretary-manager, The Safety Council of Greater St. Louis, 511 Locust St., St. Louis, Mo.

Apr. 29, Prairie du Chien, Wis.

Southwest Regional Conference, Wisconsin Council of Safety.

May 4-6, Raleigh, N. C.

Twenty-fourth Annual North Carolina Statewide Industrial Safety Conference (Sir Walter Hotel). H. S. Baucom, safety director, North Carolina Industrial Commission, Raleigh.

May 6-7, Baltimore, Md.

Annual Governor's Safety-Health Conference and Exhibit (Lord Baltimore Hotel). Joseph A. Haller, director of safety, State Industrial Accident Commission, Equitable Bldg., Baltimore 2, Md.

May 13, Sheboygan, Wis.

Fox River Valley and Lakeshore Regional Conference, Wisconsin Council of Safety.

May 18, Janesville, Wis.

Rock River Valley Regional Conference, Wisconsin Council of Safety.

May 20, Kenosha, Wis.

Southeast Lakeshore Regional Conference, Wisconsin Council of Safety.

May 20-21, Seattle, Wash.

Twentieth Annual Forest Products Safety Conference (New Washington Hotel). Pat Reiten, secretary, Simpson Logging Co., Shelton, Wash.

June 8, Wausau, Wis.

Wisconsin River Valley Regional Conference, Wisconsin Council of Safety.

June 9, Eau Claire, Wis.

Northwest Regional Conference, Wisconsin Council of Safety.

Sept. 14-16, Cleveland

Sixteenth Annual Ohio State Safety Conference and Exhibit (Hotel Carter). Carl L. Smith, executive secretary, 2073 East Ninth St., Cleveland 15.

Oct. 18-22, Chicago

42nd National Safety Congress and Exposition (Conrad Hilton Hotel). R. L. Forney, general secretary, National Safety Council, 425 North Michigan Ave., Chicago 11.

New EYEGARD IMPERIAL COVER GOGGLES

fit over the largest prescription glasses

22% larger than ordinary goggles

more ventilation through cup slots — no fogging of lenses

feather-weight aluminum rims and side shields

#500

available with or without adjusting metal top bar

contour formed to fit face snugly, comfortably

all-nylon elastic head band

uses standard 50 MM round lenses—eliminates odd size stock

#501

Here, at last, is a cover goggle that fits over modern large-frame prescription glasses and so comfortably conforms to the wearer's face that he can use them for long periods without strain or fatigue.

Ventilation has been greatly improved and area of vision increased by the new larger design, yet weight is kept at a minimum by the use of the lightest, strongest plastics.

These outstanding new Eyegard Imperial Cover Goggles use standard 50 MM round lenses thereby eliminating stocking of odd size lenses. They provide the utmost in comfort, maximum in protection, the most wanted features of any goggles on the market today. *Cost less than any other quality goggles.*

#500 WELDER'S COVER GOGGLES, with baffled side shields

#501 CHIPPER'S AND GRINDER'S COVER GOGGLES, with perforated side shields

#502 CHIPPER'S AND GRINDER'S COVER GOGGLES, clear plastic, with perforated side shields

Men who do not use prescription glasses will find the same superior quality in the following standard size Imperial Goggles:

#150 WELDER'S CUP GOGGLES' with baffled side shields

#151 CHIPPER'S AND GRINDER'S GOGGLES, with perforated side shields

#152 CHIPPER'S AND GRINDER'S GOGGLES, clear plastic, with perforated side shield

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3501 LAKESIDE AVENUE CLEVELAND 14, OHIO

DIVISION OF THE BURDETT OXYGEN COMPANY OF CLEVELAND

SMALL BUSINESSES and ASSOCIATIONS

By A. M. BALTZER and ROBERT D. CURRIE
Small Business Program Staff
National Safety Council

President's Conference

Business, labor and government leaders will attend the President's Conference on Occupational Safety in Washington, D. C. on April 14-16.

Again one of the most important items on the agenda of the Conference will be safety in small business. This year—no longer a subcommittee under the Program and Services Committee—small business safety comes into its own right as a Committee on Community Safety Programs.

Tentatively the objective of this committee is to promote safety activity in small business on the local basis through safety councils, chambers of commerce, state factory inspection, etc.

Secretary of Labor Mitchell announced the Community Safety Program's Committee officers are.

D. E. Mumford, chairman,
Superintendent of Safety
New York Central System,
New York.
Harry Read, vice-chairman,
Executive Assistant to the
Secretary-Treasurer
CIO, Washington, D. C.
W. M. Aicher, secretary,
Director Employee Relations
U. S. Brewers Foundation,
Inc., New York.

The Small Business and Associations Committee of NSC has a number of members serving on the Community Safety Program Committee.

Fatality Reports

The average small company rarely experiences a fatality and yet, in aggregate, fatalities and permanent disabilities are sapping the resources of small business. The trade association is in an excellent position to offer an exchange of information on serious accidents and means of prevention.

The American Pulp & Paper Association, New York, is one of the most recent subscribers to this approach. In response to their questionnaires, member companies are submitting valuable information on the causes and prevention of fatal and permanent disability injuries. The name of the injured employee and the company are, of course, deleted but any information that would prove helpful in preventing re-occurrences throughout the industry are included. The A.P.P.A. then sends all of its members monthly mimeographed bulletins describing the accident and suggesting preventive measures.

An interesting sidelight—one that is very encouraging to us on the Council staff—is the mention of our Detail Sheets as reference materials suitable for building guards. It is specific proof that our materials have a direct application. Our goal and the Association's goal is to get them used before the accident, not afterwards.

The IMA Is On the Ball

The Illinois Manufacturers' Association, in co-operation with the National Safety Council, ASSE, and others, is launching a program to reduce industrial accidents in small and medium sized concerns in the state. The program calls for co-operation with existing local safety councils in an effort to expand their activities, and perhaps more important, to assist in the establishment of new local safety councils.

In addition, plans call for issuing bulletins to members to stimulate interest in accident prevention work; outlining methods of setting up safety programs for individual companies; and collecting, analyzing and interpreting accident experience statistics.

E. R. Bartley, director of industrial relations for the IMA, points out that the IMA plans to coordinate the activities of the various safety councils.

NIC Promotes Local Safety

The local association session of the annual meeting of the National Industrial Council—affiliate of the National Association of Manufacturers—attracted many executives of local manufacturing associations in New York, Nov. 30—Dec. 1.

Two members of our Small Business and Association Committee, Bob Scott of the Manufacturer's Association of Montgomery County and Al Baltzer, built a strong case for more action in safety activities at the local level. Both repeatedly referred to the past and coming President's Conference in urging the local groups to cooperate with existing local safety councils or initiate programs of their own.

The enthusiastic participation displayed in the discussion period following the speakers gives testimony to the growing interest and movement on foot to actively engage in accident prevention activities at the local level.

Cooperation Plus

The Geophysical Engineers Society provides leadership in safety activities for its 200 member companies. The safety program is sparked by the Society's Safety Committee in the larger member companies. The Society's high regard for safety is reflected by the fact that it recently requested the Membership Department of the National Safety Council to send membership promotional material to its members. In addition, the Society is supporting the Council's mailing with a preparatory introductory letter of endorsement urging them to take advantage of the Council's services.

SLINGS TO LIFT ANYTHING IN THE WORLD

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Lift King
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GREEN CROSS NEWS

Activities of Local Safety Councils and Chapters

Compiled by TOM A. BURKE

Director of Local Safety Programs, Field Organization, NSC

Kalamazoo Opens Industrial Course

Late in September, the Industrial Division of NSC opened a series of five foremen meetings for the Kalamazoo Safety Council. The schedule, which opened September 24, included production and safety—the foreman's job; plant housekeeping and inspection; personal factors in accidents and safety; safeguarding and engineering for safety and making a good safety record better. The meetings are held approximately four weeks apart, from September through February. At the first session there were over 100 foremen in attendance to hear Robert Gidel, industrial engineer on the NSC staff. The instruction lasts approximately an hour, followed by a half hour of free discussion and then an additional half hour for social activity and refreshments. The course is receiving much favorable comment from local industries.

Louisiana Conference

The Fourth Annual Louisiana Safety Conference held in early December at the Roosevelt Hotel in New Orleans, included five sections, industrial, school and college, marine, home and traffic safety. M. J. Lasseigne, president of the Louisiana Safety Association, presided. The banquet speaker was John L. McCaffrey, president of the International Harvester Company, Chicago. Honorable Robert F. Kennon, Governor of Louisiana, formally opened the two-day session. Significant items on the opening day agenda were reports on the Louisiana Safety Association and the recent Louisiana Teen-Age Traffic Safety Conference.

Sioux Falls Dinner

A large attendance enjoyed the Annual Membership Dinner of the Sioux Falls, Ia., Safety Council held in that city on Tuesday, December 1. Highlighting the program was an address by Glen Latshaw, safety director for the Minnesota District of Northwestern Bell Telephone Company. President Walter Conway reported on the council activities during the past year and called attention to its growth in membership, influence and prestige throughout the Sioux Falls area.

Industrial Fire Safety

The Morris County Safety Council sponsored an Industrial Management Conference on fire protection and prevention on December 2 in Dover, New Jersey. Highlighting the Conference were talks on "Fire Insurance Costs," "Fire Safety in Your Plant From the Standpoint of State Regulations and Codes" and "Are Your Municipal and In-Plant Fire-Fighting Facilities Adequate?" Top management representatives from industries in Morris, Susse and Passiac Counties attended.

Bouquet for N.S.C.

At the annual convention of the Arizona Association of Insurance Agents, held recently in Phoenix, a resolution was unanimously adopted commending the work the National Safety Council has done within the State of Arizona. In part, the resolution read: "Be it resolved by the Arizona Association of Insurance Agents in convention here assembled, that we commend the National Safety Council for the great work it has done in the State of Arizona, and send to it this Association's fervent wish that its work in this state and throughout the nation may meet with ever increasing success."

Oregon Industrial Conference

An on-the-job accident is almost always a symptom of something gone wrong in the productive process, Governor Paul L. Patterson of Oregon told more than 500 persons attending the opening session of the Governor's Fifth Annual Industrial Safety Conference held in Portland, November 19-20. "Defects in the working environment involving men, machinery or methods, may be blamed for most industrial accidents," he continued, "and much of the solution lies in improved supervision and training." The two-day conference sponsored by the State Industrial Accident Commission also heard Ned H. Dearborn, president of the NSC, as the featured banquet speaker. Dearborn urged that persons attending should take active parts in home, farm, health and traffic safety programs as well as in their industrial safety programs. He emphasized that about twice as many workers are killed in accidents off the job as on the job and that accidents of all kinds are the most important factor in the work-years expectancy of workers and the second most important influence on their life expectancy.

—*To page 124*

A Light Forever Burning

A Voice That Is Never Stilled

Night comes on and spreads a blanket of darkness upon sleeping cities and towns. Here and there a lone policeman. In the distance a clock tolling the hour.

In the dark silence of the night there is one light forever burning . . . a voice that is never stilled. That light is the light in the telephone exchange. That voice is the voice of your telephone. Its very presence gives a feeling of security and of nearness to everyone.

Whatever the need or the hour, the telephone is always ready to serve you—quickly, dependably, and at small cost.

BELL TELEPHONE SYSTEM

LOCAL *to serve the community.* NATIONWIDE *to serve the nation.*

Traffic Lights in Craneway Warn Passers-by

RED TRAFFIC LIGHTS—similar to the type used at railroad crossings—now flash a warning whenever the 15-ton overhead crane at Standard Pressed Steel approaches one of three heavily traveled cross-aisles.

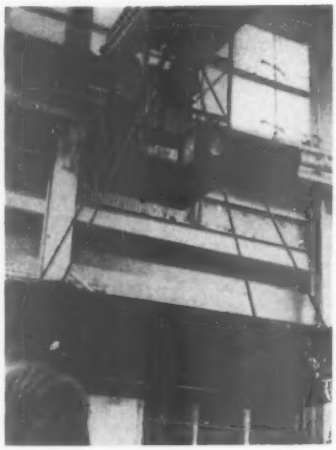
Concerned lest a misplaced load land on an unwary passerby, the Jenkintown, Pa., firm installed sets of photo-electric eyes to keep watch over each cross-aisle. SPS connected the "eyes" to blinker type warning lights—one suspended over each intersection at a height of 12 feet.

Now when the crane comes within 20 feet of the centerline of an aisle, it interrupts a photo-electric beam. The red lights in the "danger" aisle immediately start blinking—and continue to flash their warning until the overhead crane has safely passed.

The new warning system, a plant-made device, cost SPS less than $250 per aisle—the cost of the photocell units, the traffic light and the necessary controls and wiring.

The protected craneway — in which SPS stores steel bar and coil stock to be made into screws and locknuts—extends for 335 feet through the receiving end of the plant. The three cross-aisles are each ten feet wide.

The new warning system is designed to prevent an incident similar to one which happened fifty years ago. That near fatality started SPS on a half-century of growth.



Back in 1903, Howard T. Hallowell, Sr., one of the founders of SPS and now board chairman, saw an overhead cast iron shaft hanger break and, in falling, narrowly miss a man. Hallowell's decision then to make a stronger pressed steel hanger resulted in the first SPS product.

Since then SPS has branched out into the production of Hallowell steel shop equipment and into the manufacture of precision fasteners—screws and dowel pins, self-locking nuts, spring pins, and a wide variety of aircraft specialty parts.

Test Rail Joints by Supersonic Method

A new hand-carried electronic device which inspects rail joints to the core of the steel by supersonic means, is now in use by the Pennsylvania Railroad, adding to the safety of operation and moving the traditional track walker farther and farther into the background.

In announcing the new "audigage flaw detector," the railroad reported it indicates imperfections that may develop in the rail at the ends, at switches and crossovers, and through paved highway crossings, long before flaws become visible to the eye. It augments other electronic devices employed to inspect the internal structure of rail generally.

The audigage is carried and operated by one man. It consists of a long-handled detector unit about the size of a paper weight, electronic equipment carried in a small pack on the operator's back, and a pair of earphones. As the operator slides the detector unit along the top of the rail at a joint, he hears in the earphones a steady, high pitched tone which descends to a growl whenever the detector passes over an imperfection. Should a flaw be discovered, the bolts and joint bars are removed to permit complete examination of the rail and its replacement.

With audigage detectors the Pennsylvania is checking rail joints at a rate of 336,000 annually, representing more than 1,200 miles of track. In addition, rails in highway crossings are being examined, without disturbing the paving, at a rate of 14,500 crossings a year.

The President's Medal

Awards made by the National Safety Council for successful application of artificial respiration

GARLAN VALENTINE, journeyman lineman, Southern Pine Electric Power Association, Taylorsville, Miss.—electric shock.

LOUIS WEBERT, electrical tester, General Electric Co., Decatur, Ind.— suspended respiration due to strangulation.

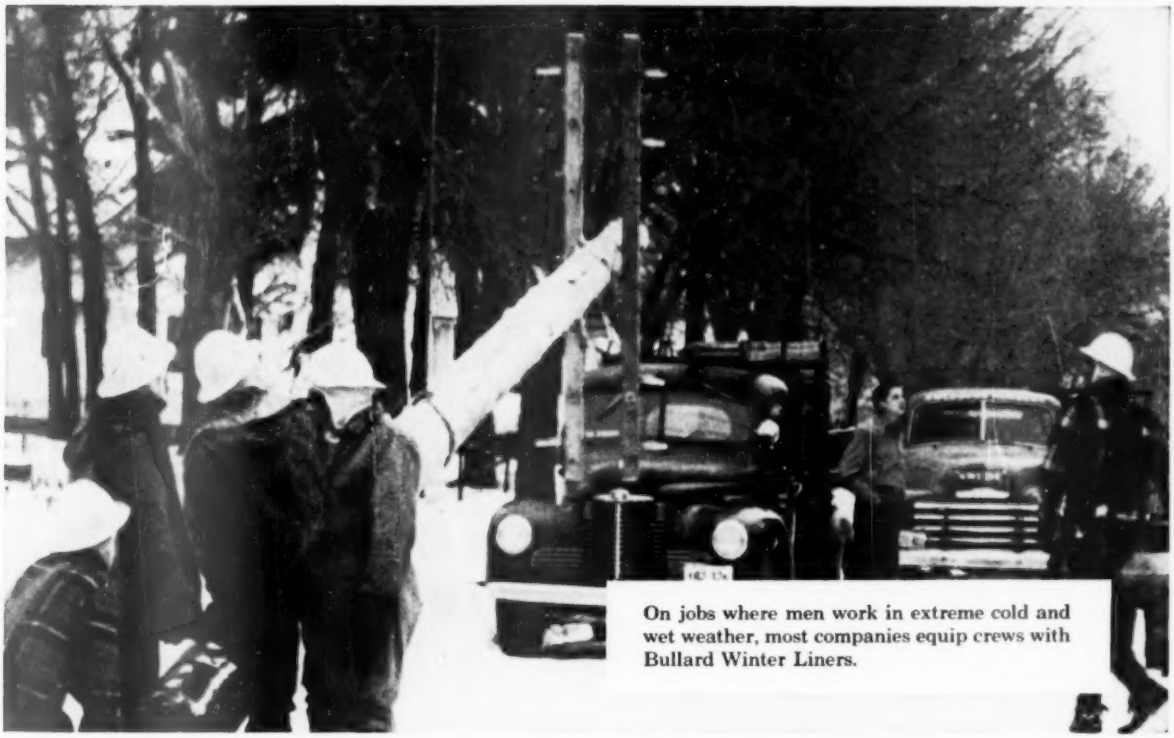
JACK MURRAY DARDEN, geologist, The Texas Company, Abilene, Texas—suspended respiration due to bronchial pneumonia.

FRANKLIN JAMES SINCLAIR, special tester, Philadelphia Electric Co., Haddonfield, N. J.—drowning.

ANTHONY T. WEIDL, station helper, The Brooklyn Union Gas Company, Brooklyn, N. Y.—drowning.

A family tree is a device for trying to trace yourself back to better people than you are.

SUB-ZERO CONDITIONS — WARM WEATHER COMFORT



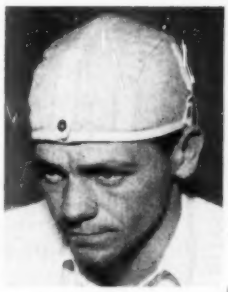
On jobs where men work in extreme cold and wet weather, most companies equip crews with Bullard Winter Liners.

BULLARD WINTER LINERS

5 types for all safety hard hats and caps

CAT. NO. 70-EL-33, MED. OR LARGE

Rugged, wind resistant and water repellent outside fabric with fleece or wool interior. Specify fleece or wool lining.



CAT. NO. 70-EL-38, MED. OR LARGE

CAT. NO. 70-WL-2K

CAT. NO. 70-WL-1K

Wool knitted caps in two styles: as snug, close fitting skull cap, or as elastic knit skaters' type that covers neck and ears.

Fabric and knit combination assures extra warmth and wind protection for ears, neck, head, and forehead.

CAT. NO. 70-WL-3K

Arctic type liner, all wool knit. Protects head and face. Front slips down over mouth.

UNIVERSAL SIZE

Fits all safety hats and caps

Fabric liner snaps over leather or leatherette sweatband, holding hat or cap firmly in place, maintaining full margin of safety protection.

Write for name and location of distributors in your area

EVERYTHING BULLARD IN SAFETY

T.M. REG. U.S. PAT. OFF.

E. D. BULLARD COMPANY

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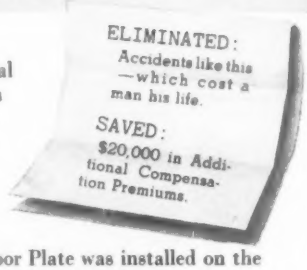
SINCE 1898

. . . THEN WE INSTALLED ALGRIP

And Ended Slipping Accidents And High Insurance Costs!

It happened at a large industrial plant, where oil and grease on a loading platform created a constant hazard. A lift truck skidded on the slippery surface, toppled from the platform's edge, and crushed the operator to death.



Then A.W. ALGRIP Abrasive Rolled Steel Floor Plate was installed on the platform—and slipping accidents ended at once. For ALGRIP is truly non-slip—even on steep inclines! Hundreds of tiny abrasive particles in each square foot of ALGRIP converted the slippery, dangerous platform into a hard gripping, anti-skid surface—safe for men and vehicles alike.

IMMEDIATE SAVINGS were obtained in three ways: (1) *No more costly, morale shattering accidents.* (2) *Faster handling of loads.* (3) *Workmen's compensation insurance premiums were substantially reduced by more than enough to pay for the* ALGRIP *installation.*

END SLIPPING ACCIDENTS THAT STEAL PRODUCTION AND KITE INSURANCE RATES

A.W. ALGRIP—only abrasive rolled steel floor plate in the world—pays for itself in savings from safety. Tough abrasive particles (same kind used in grinding wheels) put hundreds of tiny safety-brakes in every footstep—make it virtually impossible to slip even on steep inclines. ALGRIP doesn't wear smooth either—wear only exposes new particles. And tough rolled steel makes this floor plate stronger than other abrasive floorings. For safety at a saving, get the full ALGRIP story today. Write for our new Booklet AL-12—without obligation.

Over 125 Years of Iron and Steel Making Experience.

ALGRIP Abrasive Rolled Steel Floor Plate

ALAN WOOD STEEL COMPANY

CONSHOHOCKEN, PA.

Other Products: A. W. SUPER-DIAMOND Floor Plate • Plates • Sheet • Strip (Alloy and Special Grades)

Hard Hats Cushion the Bumps

FALLING OBJECTS aren't the only causes of head injuries in industrial plants. Low-hanging beams, machinery supports, girders and other structural parts are "headache traps" which can send a workman to the hospital or plant first aid room with a nasty bump or cut.

Steel stanchions supporting the sectionalized second-deck platform could cause serious injury to an unprotected head. Therefore Ford requires all 1200 employees on the 14 jigs to wear safety helmets.

The Safety Department at the Kansas City Aircraft Plant of Ford Motor Company's Ford Division recognized a serious head-injury potential in huge jigs used to fabricate wing assemblies for B-47 Stratojet bombers.

Constructed of structural steel, the jigs are double-decked so both trailing and leading edges of the 67-foot-long wing halves can be worked on at the same time. Wings are 22 feet wide at the inboard end. The sectionalized second-deck platform is supported by steel stanchions which themselves are "bump" hazards. Workmen on the first deck also are exposed to falling objects from the platform above.

To overcome this problem, Ford supplies all of its 1200 employees working on the jigs with safety helmets, similar to those worn by construction workers. These laminated plastic helmets have saved many hours of production time

by preventing accidents that would have necessitated trips to the plant hospital, according to B. W. Rose, plant manager.

Everyone, including vistors, are required to wear a safety helmet when he goes on one of the jigs. Even the riggers and cranemen who move subassemblies and material to the 14 jigs must wear them. Each workman is assigned his personal hat. Cap-type hats are used because the men frequently work in confined spaces where a full-brimmed hat would be cumbersome.

When the jigs were being erected at the Ford plant a superintendent for the outside contractor's erecting crew bumped his head on a low beam over a stairway in the jig. The injury sent him to the hospital and put him out of action for several weeks. This incident, before the plant was in operation, helped convince Ford's safety department that head protection on the jigs was needed.

To stimulate interest in voluntary use of safety hats, all "saves" are given prominent display treatment in the company's employee newspaper. A recent one showed an employee who was saved from injury when a five-pound bucking bar fell from the second deck and struck his hat. The bar made a three-inch gash in the hat instead of his head.

Another workmen had his head inside the wing when a 55-pound jig he was using slipped and fell. The sharp metal edge of the jig punctured the hat. H. A. Bradley, supervisor of safety and other employee services, said that if the man had not been wearing his hat the jig would have driven into his skull.

Importance of wearing protective hats is stressed in safety-indoctrination classes given all new employees. Large signs stating that everyone must wear a safety hat are posted on all the jigs.

Use of safety hats on the big jigs is just one phase of the over-all safety program at Ford's Kansas City Aircraft Plant . . . a program that has resulted in completion of more than 3,000,000 man-hours of work without a disabling injury.

THE NEW M·S·A FIRST AID KIT IS DIFFERENT . . . BECAUSE OF IMPORTANT LITTLE THINGS LIKE THIS

Open lid serves as shelf when kit is mounted on wall or vehicle
Clear, concise, first aid instructions
Easy-to-keep-clean case
Wall mounting brackets
Dust and moisture proof rubber gasket
Packages extend above case for easy removal
Easy-to-read identifications
10 UNIT FIRST AID KIT

Here's a First Aid Kit that gives you the important *extras* in quality and performance. A few of the important case design and construction features which serve your needs better are illustrated above. And that's only part of the New M.S.A. First Aid Kit story. Quality control, and improved first aid materials are other important improvements that add up to the big difference!

So you can be sure of freshness, purity and sterility, every Unit "D" package is stamped with a Quality Control number. This number identifies the "pedigree" clear back through our every operation.

Our modernization program extends to first aid materials. Color keying of labels for antiseptics, burn treatments, and others assure quick identification. Swabs have gauze tips which are less absorbent, assure maximum utilization of antiseptic.

And there's more, lots more. Get the facts today. Write for our bulletin.

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MINE SAFETY APPLIANCES COMPANY
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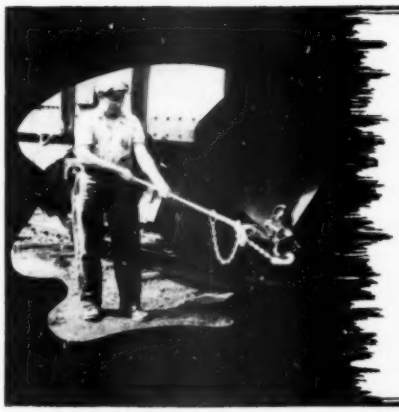
At Your Service: 82 Branch Offices in the United States and Canada



What Is He Using to Prevent Serious Injury?

The Prescott Safety Tool

Those who have been using dangerous, old-fashioned hand, foot and bar methods of closing hopper bottom car doors with latch-type locks should be provided with this protective tool. It will prevent many ruptures, strained backs, and smashed fingers. Write today for free folder.

The Trumbull Mfg. Company
WARREN, OHIO

Assembly Carts Prevent Strains, Speed Work

Part of the gas turbine compressor assembly line. Newly designed assembly carts which have eliminated back injuries can be seen at each assembly station. It needs only a simple hand or foot operation to swing the chassis being assembled in a vertical or horizontal swing. When the assembly point operation is finished, the cart is easily wheeled to the next point.

ASSEMBLY of gas turbine compressors by AiResearch Manufacturing Company has been made much safer at its Phoenix, Ariz., plant by a newly designed assembly cart.

The compressors, hearts of the auxiliary pneumatic power systems for jet and turbojet aircraft, are carried through the entire assembly process, test labs, and final inspection to the shipping room on a sturdily built, lightweight cart that is easily handled by one man.

Design of the carts makes it possible for the assembly workers at each line to remain conveniently close to their tool bench and small part trays while working without danger of back strain or similar injuries. Workers can rotate the unit being assembled vertically through 360 degrees geared to stop on increments of 15 degrees.

Foot controls enable the unit being worked on to rotate horizontally through 360 degrees stopping wherever the operator chooses and completely eliminating accidents that would result from having to lift the awkward heavy unit. At each assembly point, the cart itself is secured to the plant floor by a faultless foot brake which stops any cart or assembly movement during torque actions on the engine assembly eliminating another cause of accidents.

Designed by the engineering department of the Arizona AiResearch division and built at the Phoenix plant, the cart is on four ball bearing mounted 8 x 2.50 zero rubber pressure tires allowing cart to be easily and safely pushed

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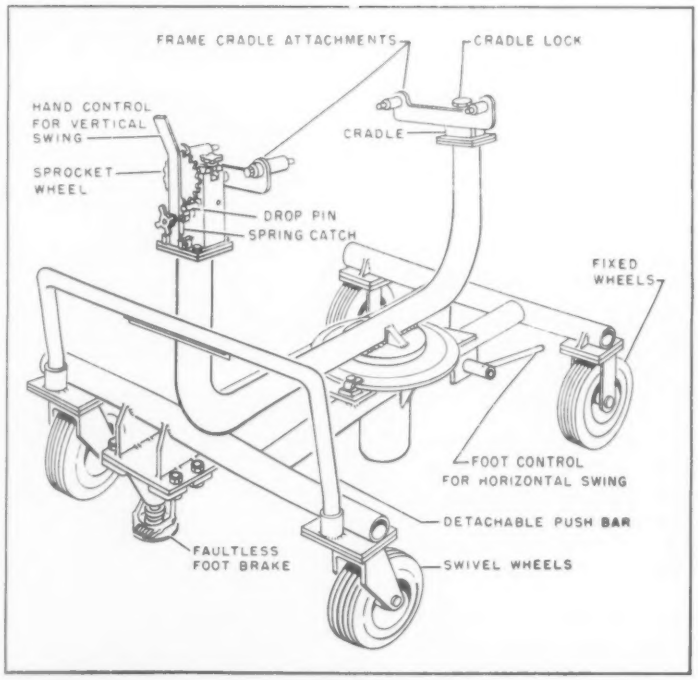
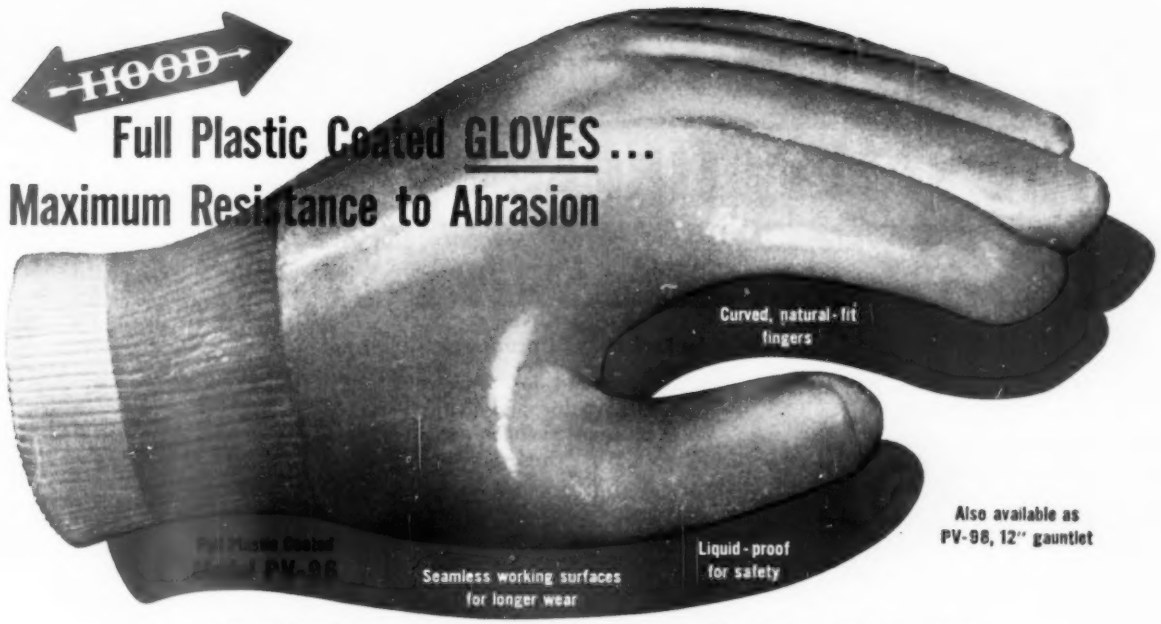


Sketch showing details of AiResearch assembly cart. A foot brake checks any cart or cradle movement while assembling compressor units.

HOOD

Full Plastic Coated GLOVES...
Maximum Resistance to Abrasion


Curved, natural-fit fingers
Liquid-proof for safety
Seamless working surfaces for longer wear
Also available as PV-98, 12" gauntlet

These Hood gloves with *fully* curved fingers give greater comfort, plus maximum resistance to abrasion and wear. Made from a new, scientifically compounded formula which results in a perfectly fused film, these new gloves have a uniform coating with no weak spots. Both benefits have been proved by Hood's "on-the-job" testing.

Hood makes a complete line of industrial rubber and plastic gloves that will help keep your safety standards high. Write today for our new illustrated catalog featuring the Hood Glove Guide, which shows you "how to choose the RIGHT Glove for EACH job".

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These Simple Units Add Up to
INCREASED PROPERTY PROTECTION
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LOWER INSURANCE RATES!

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Quickly Pays for Itself!

The CHICAGO WATCHCLOCK System is so reliable, users are given lower insurance rates. The CHICAGO System enables reliable watchmen to PROVE they're on the job. It keeps a permanent record of their performance . . . YOU get extra protection against FIRE, THEFT and SABOTAGE.

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that explains the operation of the CHICAGO WATCHCLOCK System and how this low-priced installation is made quickly with only a screw driver!

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THE SAFETY LIBRARY

Books, Pamphlets and Periodicals of Interest to Safety Men

Compiled by Ruth Parks, Librarian, NSC

BOOKS AND PAMPHLETS

Agricultural Chemicals

Hanna's Handbook of Agricultural Chemicals, by Lester W. Hanna. Published by Lester W. Hanna, Box 210, Route 1, Forest Grove, Oregon, 1952. 209 + XVI pages, $3.25.

This little Handbook which was privately printed just about a year ago has just come to my attention, and seemed too valuable not to have a notice, even though it must be a rather late one.

The use of agricultural chemicals is growing enormously both in the form of plant food, and in the form of pest control chemicals. As the use of chemicals for pest control has grown, both in quantity used and in potency of the compounds, there has not been a corresponding growth in the precautions taken or in the interest of agriculturalists in handling the materials safely. For the protection of agricultural workers it is essential that more interest be taken in safe handling of agricultural chemicals by the leaders in the agricultural sciences. It cannot be expected that the workers will do more than follow the directions which they are given.

In this Handbook, for the first time, a competent entomologist has studied the chemicals used as fertilizers, fumigants, fungicides and has made an effort to give directions for safe handling of all of them in accordance with their hazard. The book is useful particularly because the materials are listed by common names and trade names so that they can be found by the users without much searching.

The specialist in industrial health and safety will probably find some ground for argument with details of this presentation. Such items as relatively small emphasis on the chrome as compared to the acute effects of all of the metallic and metalloid poisons are questionable and there are a few errors of fact, such as the use of amylnitrate as an antidote for cyanide in place of amylnitrite. These relatively minor criticisms are greatly outweighed by the great utility of having a large collection of information in a handy form and in easily understood terms.

F. A. Van Atta

Aeronautics

Statistical Handbook of Civil Aviation, 1953. Published by Civil Aeronautics Administration, 1953, 109 p. For sale by the Superintendent of Documents, Washington 25, D. C. 40c.

Air Pollution

Air Pollution Abatement Manual. Chapter 10. Gas and Vapor Abatement. Published by Manufacturing Chemists' Association, 246 Woodward Bldg., Washington 5, D. C., 1953, 29 p. 60c. (Manual Sheet P-11.)

Chemicals

Ortho-Dichloro Benzene. Published by Manufacturing Chemists' Association, 246 Woodward Bldg., Washington 5, D. C., 1953, 12 p. 25c.

Color

Safety Color Code for Marking—Physical Hazards and the Identification of Certain Equipment. Published by American Standards Association, 70 East 45th St., New York 17, N. Y., 1953, 11 p. 50c.

Food Industry

Disabling Work Injuries—Fruit and Vegetable Canning, California, 1952. Published by Division of Labor Statistics and Research, P.O. Box 965, San Francisco 1, Calif., 1953, 13 p.

Health

Health of Workers in Chromate Producing Industry. Published by U. S. Public Health Service, 1953, 131 p. For sale by the Superintendent of Documents, Washington 25, D. C. $1.00 (P.H.S.—No. 192).

Ladders

There's a Right Ladder for Every Job. Published by American Ladder Institute, 666 Lake Shore Drive, Chicago 11, Ill., 1953, 10 p.

Mines

A Study to Determine Potential Dust Exposure in Connection with Intermittent Rock Drilling in Coal Mines. By C. W. Owings and Leslie Johnson. Published by U. S. Bureau of Mines, 1953, 7 p. Available from the Bureau, Publications Distribution Section (4800 Forbes St., Pittsburgh 13, Pa. Free (Report of Investigation 5004).

MAGAZINE ARTICLES

Compressed Air

Emergency Breeds a Safety Device. Plant Engineering, Nov. 1953, p. 87.

Dust

Absolute Method of Sampling and Measurement of Solid Air-Borne Particles. By David A. Fraser. *AMA Archives of Industrial Hygiene and Occupational Medicine*, Nov. 1953, p. 412.

Floors

Floor Wax. California Highways and Public Works, Sept.-Oct. 1953, p. 40.

Health

Industrial Hygiene at Westinghouse. The Plant, Nov. 1953, p. 59.

Pneumoconiosis in the Tungsten-Carbide Tool Industry. By Charles W. Miller and others. *AMA Archives of Industrial Hygiene and Occupational Medicine*, Nov. 1953, p. 453.

The Prevention of Dermatitis. By Malcolm Findlay. *Supervision*, Nov. 1953, p. 18.

Studies in Vanadium Toxicity. By John T. Mountain and others.

—*To page 123*

New CELLULAR NEOPRENE SOLES

add comfort and durability to lightweight Thom McAn safety shoes

Courtesy:
Thom McAn Shoe Co.
New York, N. Y.

Built for the job

Styled for the street

Here's an unusual combination of dress-oxford comfort and safety-shoe ruggedness. Thanks to lightweight soles of cellular neoprene, these Thom McAn safety shoes with steel toe caps weigh no more than ordinary shoes. And both soles and uppers will keep a smart appearance through every step of a long service life.

Cellular neoprene soles have what it takes for rough wear. They resist the grease and oil of factory floors . . . won't crack or chip under constant abrasion. And they stay firm and trim even when exposed to hot steel flooring. At the same time, thousands of tiny cells throughout the soles absorb shock and provide workers with the maximum in cushioned foot support.

Workdays are safer and easier when cellular neoprene is underfoot. No wonder more and more manufacturers are finding it the ideal soling material for top-quality safety shoes.

SEND FOR FREE BOOKLET

E. I. du Pont de Nemours & Co. (Inc.)
Rubber Chemicals Division, NS-1, Wilmington 98, Del.

Please send me your booklet which contains information about neoprene soles . . . descriptions of neoprene's unusual properties and superior qualities.

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DU PONT NEOPRENE

The rubber made by Du Pont since 1932

DU PONT
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

Cases for Comment

Compiled by ROBERT D. GIDEL,
Senior Engineer, Industrial Department, National Safety Council.

Double Trouble

AN EMPLOYEE was struck on the head by a crane block which had been lowered at moderate speed. The employee was wearing a hard hat. The employee stated that as a result of the blow his knees buckled, but he was not caused to fall.

He was immediately referred to the plant dispensary where on examination it was found that there were no physical signs of injury. After a short period and following his request, he was returned to a like job for the remainder of his shift. He continued working for several days and four days later he reported to the dispensary complaining of pains in his neck and head. He was thereupon given a quantity of aspirin with instructions as to when and how to take them. He left the dispensary and returned to work. However, it appeared that he had not only obtained an additional quantity of aspirin from other sources, but completely ignored the instructions given to him and consumed in excess of 100 aspirin tablets of 5 grains each in the following period of 24 hours.

As a result, he was hospitalized on the next day and released as much improved five days later. His case had been diagnosed as salicylate poisoning. Five days later he was again seen by the plant physician and as a result of the physician's observations he was on the same day referred to a psychiatrist who advised that the employee was suffering from dementia praecox and, in fact, was in a manic state. He was immediately thereupon hospitalized and given treatment. He was released from the hospital within the following week and continues under treatment.

The history procured from the employee's family showed clearly that for a long period of years, manifestations of dementia praecox have been evident to the immediate family. It is the opinion of the doctor that the dementia praecox long predated the accident and that the employee's condition was progressively worse before the accident. However, no such manifestations were observed at work.

The company asked whether in view of paragraph 3.6.1 of the Code, which states: "Illness resulting solely from antitoxin, vaccines, or drugs used in the treatment of a non-disabling injury shall not cause the injury to be classified as disabling," the five days hospitalization time lost due to the salicylate poisoning should be chargeable. Also, the company wanted to know if the hospitalization and time lost from work subsequent to the time the man was referred to a psychiatrist for treatment should be classified as a disabling injury within the meaning of Section 3.4 of the Code.

The Committee of Judges noted that time was lost in the first instance because of improper medication, and the Committee has been consistent in ruling such cases reportable. Although the situation was outside the control of the first aid department of the company, similiar situations present in other cases have been declared reportable. The case in question is just a different kind of non-professional medication.

In the second situation which resulted in lost time, the doctor treating the case had been unable to state for sure that the cause of lost time was disassociated with the original accident. Paragraph 2.3 of the Code states that any injury aggravating a pre-existing condition or weakness shall be classified with the ultimate total disability of the injury.

A COMPANY competing for an outstanding safety record wants to make sure that no accidents are wrongly charged. This can be done through ASA Standard Code Z16.1-1945. If there is any doubt as to interpretation of the Code, the Committee of Judges of the American Standards Association Sectional Committee is available to review the facts.

A few of these cases are discussed briefly in this department. It is hoped that they will aid readers not only in determining the chargeability of accidents but also in planning preventive measures.

Exposure to the Elements

While prospecting for phosphate rock, it was necessary to locate two prospect holes in about three feet of water in the edge of a lake. Three of the four men in the crew changed into swimming trunks before entering the water, the fourth wore long trousers, shirt and hat. All the men were required to wear shoes in the water.

One of the four employees had been employed by the company for three days but was a lifetime native of Florida and was one of the men who elected to wear swimming trunks. The other employees slipped on additional clothing after a time to protect themselves from the sun, but this employee continued to work in trunks only, thus exposing himself to the sun.

On the following morning the employee did not report for work nor did he call or give notice concerning his absence. Contacted at his home, it was found that the employee was in bed with a severe sunburn. The next day the man was brought into the company medical dispensary and examined by a doctor who diagnosed his ailment to be severe sunburn. The man was still off work a week later.

The Committee of Judges held that the injury should be included in the injury rates as a temporary total disability. The time lost in this case arose out of exposure which was directly associated with the employee's work. The fact that the worker did not protect

himself as the other workers did or as other people in the vicinity might have done has no bearing on the case. The sunburn arose out of and in the course of the employee's work and is chargeable according with paragraph 2.6 of the Code.

What about supervisory control over workers engaged in such operations? Should workers subject to injury by the elements be allowed to handle such conditions according to their own judgment alone?

O'Grady Visits the Safety Congress

ACTOR JIM DEXTER was one of the "most-recognized" men among more than 12,000 persons who attended the 41st National Safety Congress.

Dexter, who stars as Gustave G. O'Grady, the "everything-happens-to-me" foreman in NSC movies, showed up at the Congress in his working clothes—all ready to go before Sarra, Inc., cameras.

Cries of "Hey, O'Grady" met him at the door of the Conrad Hilton Hotel, and followed him throughout the day. Safety men from companies here and abroad came up to shake hands with the actor who has portrayed troubling safety situations in four O'Grady films produced for the National Safety Council.

Dexter was at the Congress to star in scenes for a forthcoming movie, tentatively titled "O'Grady Goes to the Safety Congress." Director Wayne Langston had hoped to make the scenes unobtrusively but O'Grady was instantly recognized.

Hundreds of safety men from the U. S., Canada, Mexico and other countries also were "shot" by Sarra cameras as they participated in Congress activities. These men will "co-star" with O'Grady in the film, scheduled for Spring release.

"I want to get some travellers' cheques," the lady customer announced.

"Certainly, Madam. What denomination?"

"Church of England," the lady answered tartly, "but I don't see that it's any of your business."

How ACCO REGISTERED Stock Slings Save You Money—with Safety

1 • **You Get ALL the Strength You Pay For**—DUALOC* Endings insure against any loss in the catalog strength of the preformed Green Strand wire rope the sling is made of.

2 • **You Lower Your Sling Maintenance Costs**—If damaged, any part of the sling can be replaced in your own shop with another ACCO *Registered* part of equal strength. No delay. You don't ship the whole sling to have one part repaired.

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4 • **These Slings and Fittings are "ACCO *Registered*"**—This assures you of highest quality and safety throughout.

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Wilkes-Barre, Pa., Chicago, Denver, Houston, Los Angeles, New York, Odessa, Tex., Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

ACCO Registered DUALOC Slings

Using Electronics

(From page 25)

The initial test indicated that the defective areas were so small that they probably would not be dangerous. Because of this the mill continued in operation and tests were taken every day. As operations continued, the cracks grew and finally appeared large enough to justify removal of the crankshaft.

The crankshaft was taken to the engine manufacturer's plant where the pin was removed. The alloy steel pin was about four feet long and two feet in diameter. Because of these dimensions, the pin was difficult to break but it was finally broken and revealed defective areas at the points indicated by the reflectoscope.

The crankshaft was 33 feet long and weighed 126 tons. If the defects had not been detected and removed, breakage of the pins could have unleashed a devastating explosion of screaming steam and flying steel. Many casualties would have resulted. Crippled production, increasing losses and general confusion would have ruled the scene for many weeks.

Another unique development which had to follow devious routes to accomplish the safety objective is a device called the autopour. In spite of many accidents and obvious steel losses in pouring molten steel from ladles into ingots, no major improvements had been made in the safety of the pouring operation in 30 years.

Even though the weight of a ladle full of molten steel had been increased to as much as 300 tons it was still necessary for the man who controlled the pouring to stand only a few feet away from the ladle. Metal pouring was accomplished by the up and down movement of a lever attached to the ladle. Because of close proximity to fast flowing molten steel, pourers are prominent on the list of victims of steel production.

To a safety engineer a remote control that would enable the pourer to stand 20 or 30 feet away from the ladle would seem an operating necessity. However, the amount of money needed was large enough that most operators were reluctant to spend it without an extremely convincing story.

Resort to an analysis of the potential economies in operation was the key to progress. Tests revealed that in addition to improving the safety level the remote control or autopour also reduced the splashing, reduced the loss of steel when moving from mold to mold and also provided a better guarantee of maintaining free movement of the stopper in the presence of a solidified crust on the top.

Several dozen autopours are now in use in the steel industry thereby raising the safety level even though safety arguments alone would probably not have produced the desired results. Figure 1 is a typical installation.

One interesting application of electronic inspection, in this case by the reflectoscope, which did not need the economy angle to supplement the safety aspect is the inspection of mine skip axles. The skips were used to carry men in and out of the mines. Failures of skip shafts had resulted in serious accidents and as soon as the mine management learned of the reflectocope they immediately put it to work and have used it ever since. While it was the safety urge which prompted the use of the equipment, money savings have also resulted from its use. By detecting defects early in the fabrication of equipment, processing costs on defective parts are eliminated.

Electronic devices have also played an important part in increasing safety with large industrial cranes. In all industries in which heavy materials are handled by cranes most of us at one time or another demonstrate tremendous faith in the solidity and strength of the crane hooks merely by stepping out in the operating areas. In many cases, even though we may not be directly under the load, we are close enough to it that failure of the crane hook could result in serious personal injury.

—To page 112

Figure 6. Use of magnetic powder for inspecting fork lift truck. Current going through coiled surrounding fork create magnetic field. Crack is identified by wavy black line of powder.

eliminate towel waste with WESTROLL!

The Westroll towel dispenser has relatively few working parts, so its maintenance factor is negligible. Westroll dispensers are streamlined, easy to keep clean. They assure a constant supply of towels, help keep washrooms spic and span, save costly janitors' time.

It's human nature to take advantage of an overly generous paper towel dispenser. Particularly so with interfold or flat towels where two, three or even four are used for one drying. But with Westroll, people tend to take just enough and no more. You save as much as 40% on towel costs.

Tests show Westroll users average only 17 inches of paper, against 22, 33, or 44 inches of interfold. Users can crank out exactly the amount of towel necessary – even as little as two inches for lipstick removal! These are immediate savings.

You also save on maintenance. One filling of a Westroll micromatic dispenser is equivalent to *four* fillings of the ordinary flat-towel dispenser. Westroll dispensers are loaned and maintained by West.

Westroll towels are outselling our interfold towels 20 to 1. No customer has ever switched back to interfold towels after trying Westroll!

WEST DISINFECTING Company

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PLANT MAINTENANCE SHOW IN CHICAGO

WANT DETAILS?

Tear out this coupon and mail with your letterhead

Dept. 7

I'm Interested In:

☐ A FREE leaflet on WESTROLL.

☐ A talk with a West expert about my washroom problems. No sales pitch. No obligation. Just discussion and a demonstration if I want it.

FOR DISTINGUISHED SERVICE

National Safety Council Awards for Outstanding Records

THREE types of awards for outstanding performance in industrial accident prevention are provided for in the "Plan for Recognizing Good Industrial Safety Records" adopted in January, 1952, by the Industrial Conference and the Board of Directors of the National Safety Council.

The three types of awards are:

1. THE AWARD OF HONOR, the highest award, replaces the Distinguished Service to Safety Award. It goes to industrial establishments whose experience meets rigorous statistical standards, even though it may not be injury-free. It also goes to those which complete 3,000,000 manhours without a disabling injury.

2. THE AWARD OF MERIT has similar but less exacting requirements. The standards for non-perfect records are somewhat lower, and the minimum number of injury-free manhours needed to qualify is 1,000,000.

3. THE CERTIFICATE OF COMMENDATION is given only for no-injury records covering a period of one or more entire calendar years and involving exposure of 200,000 to 1,000,000 manhours.

For qualifying calendar-year experience, all three types of awards are made automatically on the basis of annual reports submitted to the Council by members. The Award of Honor and the Award of Merit may also be made on special application in two types of cases.

1. Where a qualifying total of injury-free manhours is accumulated in some period other than a calendar year.

2. Where a current period of two or more years is to be used in evaluating injury rate improvement.

Publication of awards under this plan succeeds "The Honor Roll" department formerly published in the NATIONAL SAFETY NEWS. The foregoing is but a synopsis of the award plan. For a more complete and precise statement of eligibility requirements, members should refer to the plan itself. Details may be obtained by writing to Statistics Division, National Safety Council.

AWARD OF HONOR

Hercules Powder Company, Parlin Plant, Parlin, N. J.

AWARDS OF MERIT

Eli Lilly & Company, Indianapolis, Ind., Unit.

H. J. Heinz Company, Holland, Mich., Plant.

Peter Kiewitson Company, AEC Project, Portsmouth, Ohio.

Pittsburgh Group Companies, Columbia Gas System, Pittsburgh, Pa.

CERTIFICATES OF COMMENDATION

The Denver & Rio Grande Western Railroad Company, Special Services Department (System), Denver, Colo.

—Stores Department (System).

Maintenance Conference To Be Held in Chicago

SAFETY and sanitation will get special recognition at the Plant Maintenance and Engineering Conference to be held in Chicago, January 25 to 28. The show will be held at the International Amphitheatre and the conference at the Conrad Hilton Hotel. Many new products in the sanitation and safety fields will be on display.

Fifty-nine conference sessions are scheduled. Among those of importance in safety and sanitation will be "Sanitation—Methods, Materials and Control," "Hospitals, Medical Departments and First Aid Rooms," "Janitor Work—Methods, Techniques, Organization, Control," and "Waste Disposal Problems."

There will be special sessions on "Planning and Scheduling Maintenance Work," "Maintenance Cost Control and Budgeting," "Preventive Maintenance," "Training People for Maintenance Work," "Organizing People, Policies and Procedures for Effective Maintenance," "Work Measurement, Work Standards and Incentives," "Getting Management's Okay on the Maintenance Program," "Maintenance Labor," "Corrosion" and "Card Record and Analysis Systems."

Types of equipment to get separate attention will be materials handling, mechanical service, lighting, power plant and electronic control equipment. Other topics are "Electrical Distribution Systems," "Methods of Handling in Maintenance Work," "Lubrication," "Stores and Storekeeping," "Maintenance in Plants Having Up to 25 Employees" and "Plant Buildings."

Advance registration cards may be obtained from Clapp & Poliak, Inc., 341 Madison Ave., New York 17.

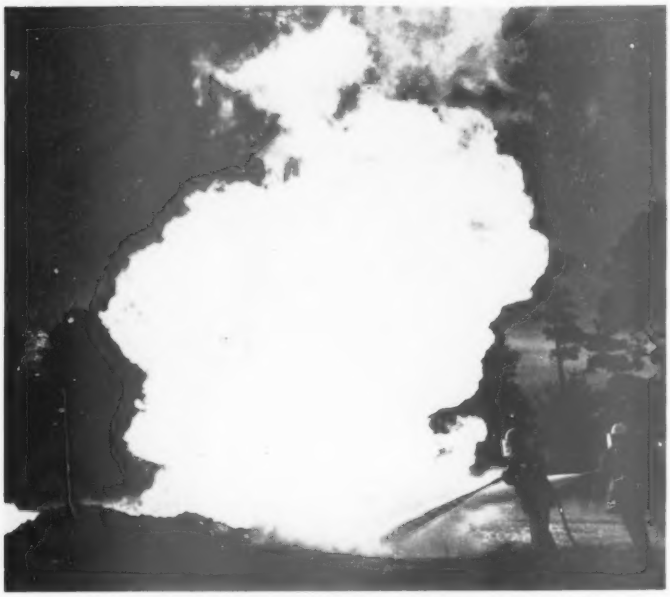
Once it gets a foothold, fire rips into your plant like a monstrous claw. That means you must guard every hazard– flammable liquids, electrical equipment as well as ordinary combustibles– with Kidde Portable Extinguishers or Built-in Systems. Call your Kidde agent today.

The word "Kidde" and the Kidde seal are trade-marks of Walter Kidde & Company, Inc. and its associated companies.

Kidde

Walter Kidde & Company, Inc.
145 Main St., Belleville 9, N. J.
Walter Kidde & Company of Canada, Ltd., Montreal, P. Q.

Test Dry Chemical Equipment On Natural Gas Fires



Large pit fire from "split pipe" with gas flow at 186 cu. ft. per second is extinguished in 3.8 seconds using four hose lines from dry chemical extinguisher.

RESULTS OF TESTS conducted last year at Longview, Texas, to determine the suitability of dry chemical fire extinguishing equipment on typical natural gas fires have been released by Ansul Chemical Company, of Marinette, Wis., in *Technical Bulletin No. 32*.

The tests, conducted on a 24-inch gas transmission line, with a large volume of gas available at a pressure of about 850 psi, were the largest and most comprehensive yet conducted with dry chemical in the natural gas industry.

In all, some 191 individual tests were made over eight working days.

A total of 930,563 cubic feet of gas was discharged.

The maximum rate of flow for one test was 2,610 cubic feet per second (equivalent to 225,504,000 cubic feet per day).

A total of 47,000 pounds of dry chemical was used during the eight days.

A total of 57,640 cubic feet of nitrogen was used to expel the dry chemical.

In all, 16 engineers and technicians from the gas pipeline company and eight from Ansul Chemical Company took part in the tests.

The tests were held because of the increasing importance of the transmission, storage and use of natural gas in large volumes and at relatively high pressures. Pipe lines have been extended to large sections of the country to supply natural gas to supplement or take the place of manufactured gas.

Throughout the entire process, at producing wells, in the transmission lines, and at the utilities or industries which store or use the gas at high pressures, all of the elements necessary for fire or explosion exist in close proximity.

There have been a number of fires involving high pressure natural gas but no consolidation of information regarding the methods of fighting them or the ability of any agent to extinguish them. One of the large gas transmission companies recognized the foregoing facts and with the cooperation of the Ansul Chemical Company made a series of tests. The objects of the tests, in addition to determining the suitability of dry chemical fire extinguishing equipment on typical natural gas fires, were: (1) To select the proper size and type equipment for compressor stations, and (2) To determine the limiting volumes and conditions under which burning gas can be extinguished by various size dry chemical units.

In addition to evaluating the extinguishing equipment, part of the test program was to determine which types and sizes of fires could be attacked wearing normal work clothing and which required special protective equipment.

A general conclusion may be drawn from the test results: that dry chemical fire equipment is suitable for use on natural gas fires involving pressures up to 850 psi. Such fires may be at producing wells, in transmission lines, at gas utility plants, or at the plants of gas consumers.

It was anticipated before the tests that the impinging type fires would be more difficult to extinguish than the freely discharging or jet type fires. The test results confirm this and indicate the need for more and/or larger equipment to extinguish impinging fires.

Protective Clothing

With the protection afforded by the dry chemical stream the various types of non-impinging fires can be approached by fire fighters wearing ordinary work clothing. Wool clothing is recommended because it offers greater resistance to ignition than does cotton.

Where large impinging type fires are anticipated, protective clothing should be available. The equipment used by fire fighters in these tests consisted of bunker coats and safety helmets with ⅛ inch thick Plexiglass face shields. This protection permits close approach to very severe fires without danger to the men.

Look to Gro-Cord in '54

for the Newest and Latest Developments in Industrial-Workshoe soles

- *For Greater Safety*
- *For Greater Comfort*
- *For Greater Slip Resistance*
- *For Greater Resistance to Oil-Heat-Acids-Caustics*
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"Sell'em the shoe with the Sole for the Job!"

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LIMA, OHIO

Canadian Plant
GRO-CORD RUBBER CO. of CANADA LTD.
Tillsonburg, Ontario

A Nose for Safety

George Kurtz, champion safety suggester, ponders over another contribution to the suggestion program of the Armstrong Cork Company. After 36 years of service, his safety idea record stands at 572 acceptable suggestions at the Company's plant in Lancaster, Pa. Until a better record is reported, his fellow-employees will consider him the national safety ace, an honor given him during World War II by the National Safety Council.

SHERLOCK HOLMES' famed powers of perception might have to take a back seat were they placed in competition with an Armstrong Cork Company employee's phenomenal success in swooping down on ideas to promote safety.

Tagged as a National Safety Council "Safety Ace" in 1943 for contributing 74 quality suggestions on plant safety, George S. Kurtz, a pipe mechanic, surpassed all the nation's millions of war workers in volume and quantity.

His frenzied "following the trail" for new ideas persists and has motivated his fellow workers at Armstrong's huge plant at Lancaster, Pa. to throw out the defiant challenge that George's total number of suggestions, 572, maintains for him the title of national safety suggester champion 10 years later. He's done it in a plant honored frequently for its excellent safety record.

George might have relaxed after being honored as "Safety Ace." Instead, he increased his record the following year, in 1944, by 125 new accepted ideas, his record for annual output. By the end of the shooting on V-J day, he had flooded the suggestion box with enough ideas to prod his wartime record to 300.

Safety is George's hobby. He lives and breathes it, according to one of his supervisors. George will admit that readily. "Most every minute at work I look for ideas to make things safe. Then at night I go home where it's quiet and write them up."

Frequently, the trail grows cold. What appears to be a valuable idea ends up being rejected for some reason. Over the years George has been with the company, he estimates that two-thirds of his suggestions have been rejected. Considering the 572 executed, you can gain an estimation of the total he has submitted.

When it comes to advising others how to spot hazards, he believes anybody who thinks and uses safety actively will be successful. Most people, he thinks, do not or will not think about safety. If they do turn in a suggestion and it is rejected, they become discouraged. "When you realize a mere suggestion may save an arm or a life, then you have no business becoming discouraged," he warns.

George considers himself an integral part of the Armstrong suggestion program. He started with the company when the infant program celebrated its first birthday in 1918. From those early days George has cashed in regularly on the cash awards paid employees for safety and production ideas.

Records kept since 1932 show that the Armstrong suggestion program has received more than 26,000 acceptable safety and production ideas from employees for which it has paid out more than $200,000.

It was true at the start of the program and is true now, George reflects: "It's not the big danger spots you have to worry about. They seem to take care of themselves. But those pesky little hazards which can take an eye or a life just as quickly are a lot harder to see. Those are the ones I'm concerned about."

His zeal for safety may stem from an incident which occurred in 1941. A 10-foot ladder he was standing on slipped, plunging him to the concrete below.

"The doctor told me I could have broken my skull from that fall instead of just getting bruises. If one of my suggestions prevents somebody from going through that," he says, "it has earned its salt."

The mere lack of records on safety contributions to industrial suggestion programs doesn't deter his friends and fellow employees from bragging about him. In their eyes and in the eyes of the Armstrong Cork Company, George S. Kurtz' "nose for safety" makes him the nation's champion safety suggester.

New! Improved Design! Greater Safety!

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The 809 is a general purpose goggle that meets government specifications in providing impact protection from particles striking from any angle and in achieving distortion-free vision. This one-piece goggle formed of non-inflammable, optical plastic affords exceptional wide angle vision, fits comfortably over large frame personal glasses. More than 100 tiny air vents on the top and sides allow constant ventilation. The 809 is lightweight providing new comfort, increased efficiency, preventing wearer fatigue.
Available in the models shown . . . all equipped with easy-to-adjust elastic headbands.

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Known For Fine Ophthalmic Products Since 1866

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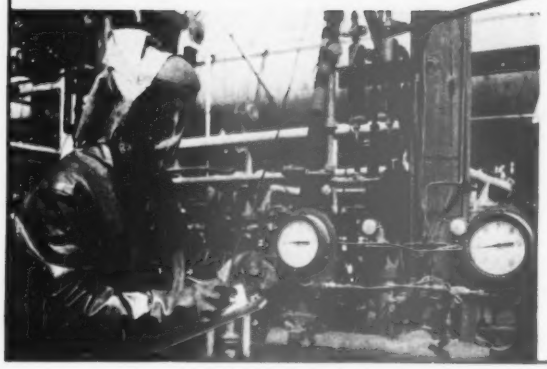

These are the men of industry who have found the answer to face and eye protection in the StaSafe Face Shield Number 5.

These are the men from the petroleum industry, from the chemical laboratory and from shops and plants from Maine to California. They have one thing in common . . . the knowledge that for the finest in protection and tops in comfort the best is only as far away as your nearest StaSafe office.

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Rolls on BALL-BEARING *Casters* yet LOCKS to the FLOOR when you STEP

In 2 thru 6-step sizes with or without handrails.

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CLIP COUPON TODAY!

Service men of Public Service Company of Northern Illinois receive training in detecting gas leaks on customers' premises. Here an Explosimeter is being demonstrated. It detects concentrations the human nose might miss and distinguishes between natural gas and gasoline, oil vapors, butane, propane and other hydrocarbons.

On the Trail of Leaking Gas

ODORANTS added to natural gas have done much to help track down leaks in mains and customer service connections, but this method depends largely on sensory detection. Also, there is the possibility that odorants may be scrubbed out of the leaking gas by certain soils, chemicals and insulating materials.

The Public Service Company Division of Commonwealth Edison Company takes no chances with the vital operation of investigating reports of gas leaks. Every one of its 225 service cars is equipped with a small instrument that detects small concentrations of gas without reliance on the human senses.

Serving some 420,000 residential, commercial and industrial customers in a large area of northern Illinois, Public Service Company crews respond to gas leak complaints quickly. If the source of the escaping gas cannot be identified at once, by smell or the customary soapsuds method, the serviceman then uses his "Explosimeter." A development of Mine

—To page 101

The service man, H. Tewes, makes his first check at the shut-off valve.

Cisterns and catch basins also get attention.

A few seconds' time is all it takes to check for a leak at the entrance of the gas line into the house.

3D Handling Problem

(From page 42)

handler precedes the cart up the stairs. This makes for much easier handling.

3. Another method involves a nylon carrying strap. The strap fits over the shoulder, and the carrier uses his hand to carry part of the load by its top handle. While a portion of the total load is distributed throughout the body by the shoulder strap, it still is an unwieldy load for one man to carry. The carrier must take care to grasp the handrail and should be so instructed. An adjustable buckle allows the strap to be fitted to different sized men. The lid of the film can is raised and the strap is inserted. Then the lid is closed securely over the strap. (The method in paragraph 1 is preferable to this procedure, because the load is halved.)

4. The container or carrying can is equipped with two side handles and a two-man operation should be insisted upon whenever possible. Then the total weight can be evenly distributed and carrying efforts properly co-ordinated.

Carrying the film can is made easier by an adjustable nylon carrying strap. The man carries part of the load by the handle.

3D carrying cart for moving cans of film up stairways. It consists of two sets of three rubber-tired wheels which literally climb the stairway as a direct pull is exerted by the man operating the cart.

This should definitely be considered a two-man operation whenever the container is carried with two reels.

5. If necessary to traverse any ladder to gain access to the projection room, a rope block and falls should be used to hoist the filled container.

II. *In the Projection Room.*

1. Once the film is in the projection room, the problem is a simpler one than that of carrying the film up several flights of stairs. Reels may weigh from 35 to 45 pounds, however. They must be lifted by the projectionist to approximately "eye height" to place them on the spindle of the projector. *This may present a strain or hernia hazard if not handled properly.* If the operator must lift the reel to load in the projector magazine, it is an awkward procedure without benefit of any lifting aids.

2. The operator will not be subjected to strain or hernia if he uses a counterweight arrangement with a hook of simple design as shown in the photograph. The specially designed hook holds the reel in place by a spring loaded arrangement. This engages one side of the reel so that it may be easily unhooked after the reel is mounted on the projector spindle. A sash weight slightly lighter than the lightest full reel to be lifted will provide sufficient counterweight. The projectionist may then easily raise the full reel to load in the magazine. He is only called upon to lift the difference between the weight of the full reel and the counterweight.

They Wore Rings On the Job

Two recent injuries caused by finger rings sparked an educational campaign by Ansco, Binghamton, N. Y., manufacturer of photographic materials. Telling the story of one such accident, the above display, in company cafeterias, shows how the injury occurred, an enlarged picture of the ring involved, and even the ring itself, lower right.

Although the hazards of wearing jewelry on certain jobs had long been recognized, Ansco is now checking all jobs and equipment to spot danger points and alert personnel.

It's better to go into marriage billfolded than blindfolded.

As never before...

Today we are all aware of the disastrous and far-reaching effects of a major industrial fire. Owners . . . management . . . employees . . . customers . . . almost every one suffers, in one way or another, when a serious fire strikes.

Could it happen to your plant? Now is the time to take a long, close look at your plant's fire protection measures. Remember, the local fire protection ordinances normally only set minimum standards. Compliance with these ordinances is no guarantee of fully adequate firesafety.

One way to be absolutely sure of the efficiency of your plant's fire protection facilities is to call in an expert C-O-TWO Fire Protection Engineer. He is ready and willing to help you with any or all industrial fire hazard problems.

There is a personal sense of responsibility inherent with C-O-TWO Fire Protection Engineers that assures you of fully adequate firesafety . . . a definite plus in your behalf. Whether it's fire detecting or fire extinguishing . . . portables or built-in systems . . . C-O-TWO means top quality backed by experienced engineering that results in operating superiority for you at all times.

WHEN BUSINESS STOPS . . . INCOME STOPS!

Don't take chances with your investment. Secure the benefits of highly efficient fire protection engineering today . . . our extensive experience over the years is at your disposal without obligation. Get the facts now!

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MANUFACTURERS OF APPROVED FIRE PROTECTION EQUIPMENT

Squeez-Grip Carbon Dioxide Type Fire Extinguishers
Dry Chemical Type Fire Extinguishers
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Safety Films

Public Utility

H_2O Safety (16mm sound motion) color. 34 minutes. Production date, 1948. TV o/k. Produced with the assistance of the American Red Cross, the film covers most rules of water safety to observe while working on floating work plants, reservoirs, and dams. Also illustrates lifesaving techniques to use on these locations. Source: District Engineer, Vicksburg District, P.O. Box 60, Vicksburg, Mississippi. Availability basis: free loan.

Rehabilitation

Physical Rehabilitation (16mm sound motion) color. 28 minutes. Production date, 1953. TV o/k. Deals with rehabilitation through techniques of advanced physical therapy. Follows a man's life in detail from the time he is disabled, through the long period of therapy and training, to the time he once more takes a job. Emphasis is on the successful employment of the physically disabled in industry. Source: Film Originals, P.O. Box 4078, Boise, Idaho. Availability basis: preview, purchase.

* * *

Copies of the first quarterly *Supplement* to the 1953-54 edition of the *National Directory of Safety Films* may still be obtained by writing to the National Safety Council, 425 North Michigan Avenue, Chicago 11, Illinois.

For further information on safety films, contact Nancy Lou Blitzen, Film Consultant, National Safety Council.

Compile Data on Hearing Loss

AMERICAN INDUSTRY now has for the first time a large body of usable data for relating average hearing loss to noise exposure in industrial environments. This was revealed in a recent committee report to the National Standardization Conference.

The data are contained in a 60-page report soon to be released after a year and a half of study by a subcommittee under the auspices of the American Standards Association with financial support from U.S. Navy and Air Force. Walter A. Rosenblith, professor in the Department of Electrical Engineering, Massachusetts Institute of Technology, heads the committee.

"By use of some 20 graphs contained in the study," Prof. Rosenblith stated, "management can now estimate the probable hearing loss of a group of individuals exposed to noise of specific characteristics over a given period of time." The committee emphasized that it was industry itself that supplied the data. Among the occupational groups studied were airline pilots, riveters and mechanics on jet plane assembly lines, gun operators in the proof-firing room of an armory; and drop-forge operators.

Four members of the nine-man committee presented their report at an industrial noise symposium held on the last day of the National Standardization Conference. They are Dr. Rosenblith; Dr. H. Wayne Rudmose, professor of physics, Southern Methodist University, technical counsel for the committee; Dr. Hallowell Davis, director of research, Central Institute for the Deaf, St. Louis; and Dr. Aram Glorig, director, Audiology and Speech Correction Center, Walter Reed Army Medical Center, Forest Glen, Md. Dr. L. L. Beranek, technical director, Acoustics Laboratory, Massachusetts Institute of Technology, served as moderator for the symposium.

Among the committee findings were these:

1. Among airline pilots, intermittent exposure to noise resulted in lower average hearing losses than did continuous exposure to similar noises;

2. Recovery from hearing loss after exposure to noise has ended is small, although young people with small permanent hearing losses seem to show more recovery than do older people with larger permanent losses.

The committee stresses that the present exploratory study is only part of a much larger effort, by many people and organizations, to define and deal with the human problems created by industrial noise. The study is directed only toward eventual development of standards and criteria for noise control.

Members also stressed that no standards have been written and no criteria proposed. The following questions, they say, must be decided first:

1. What kind and amount of hearing loss constitutes a handicap?

2. How should noises be specified and exposure measured?

3. What percentage of people exposed to industrial noise should a standard be designed to protect?

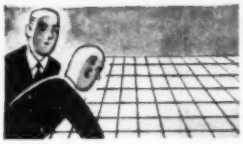
They added that information is still meagre on such an important subject as individual variation around average loss; the effectiveness of ear protection in industry; the effects of noise on the hearing of women; and the effects of exposure to noise upon persons with initial high frequency hearing loss.

The complete report of Exploratory Subcommittee X-2 (Bio- and Psycho-Acoustic Criteria) of ASA Sectional Committee Z24 (Acoustics, Vibration, and Mechanical Shock) is available at American Standards Association, 70 East 45th Street, New York 17.

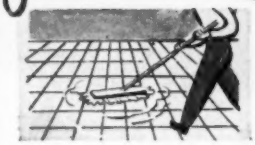
Few things are impossible in themselves. It is not so much means, as perseverance, that is wanting to bring them to a successful conclusion.

—ROCHEFOUCAULD

Why make a Safe Floor Slippery?



Hours of labor time are spent in treating expensive floors for slip-resistant beauty.



When an oily floor dressing is chosen that softens the wax film or leaves an oily residue.

A slippery floor condition results that may cause costly accidents.

the new, safe way to daily dust up!

Leaves Floors Cleanly Fresh and Dust-Free

Will Not Soften Wax Film
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Make a Date

with the Hillyard Maintaineer to demonstrate HIL-SWEEP on your floors

There's nothing on the market to compare with Hil-Sweep for daily maintenance. Clear, transparent, clean-smelling, Hil-Sweep picks up dust, leaves a lustre-new look with no harmful effect on your surface treatment. Surface treatment lasts longer. You save labor-time in sweeping and daily maintenance of your floors. Mail coupon below for a demonstration. Advice and help are free.

. . . on your staff not your payroll

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And Here are Other Good Reasons Why HIL-SWEEP is "Sweeping" the Country

- Hil-Sweep is non-injurious to asphalt tile . . . the result of years of research to develop a maintainer that would be safe for daily care of resilient and all other types of floors.
- Rags saturated with Hil-Sweep will not burn, eliminates fire hazard in use or spontaneous combustion of mops in storage. No flash point.
- Contains no emulsified oils, leaves no oily residue to darken, discolor, soften or bleed colors.
- Spray it or sprinkle it on brush, mop or dust cloth.
- Won't load mop. After using simply shake out and brush or cloth is ready to use again. Saves on laundry and dry cleaning bills.
- Imparts a pleasant aroma where used.

An old bus, used to transport workers during World War II, was transformed into a mobile emergency unit by Higgins, Inc. It contains an unusual variety of first aid, fire-fighting and rescue equipment and is available to city fire and police departments when needed.

Ready When Needed

By LEON J. BAKER

TODAY industry finds many new problems in maintaining an effective safety program and must, therefore, follow new avenues of protection. Many old safety practices are now obsolete. New and synthetic materials have come into use: some paints, glue and plastics may cause explosions, asphyxiation and fire.

What is the use of thousands of dollars worth of safety equipment, if it is not almost instantly available for rescue work, fire-fighting or first aid? Placing protective and safety material near supposedly hazardous spots is no longer found adequate. Who knows where an emergency might occur? When a life is at stake, precious minutes may be lost getting the right pieces of equipment to the scene because it was kept in the wrong spot.

At the Higgins, Inc., plant and shipyard in New Orleans, Louisiana, an emergency unit, which is an innovation in industrial safety equipment, has been developed. In the extensiveness of its equipment and its speedy availability, this unit far exceeds those of many municipalities, hospitals and other industrial plants.

An old bus which was used to transport workers to the plant during World War II has been converted almost magically into an efficient and speedy means of transporting and handling safety, rescue, first aid and fire equipment. Its seats were torn out. Then, with measurements figured to a degree of expertness, every available inch of space was used to build bins, racks and shelves—each made to hold its own particular piece of equipment and labeled so that no time is lost in finding needed articles.

The company's entire variety of emergency equipment is at hand with the arrival of this truck! And that includes 472 pieces. The unit carries, to list a few items:

FIRST AID: Complete kit, supplies, stretchers, pneolator, inhalator, 4 extra small oxygen tanks, 1 large oxygen tank, splints, rubber sheets, wool blankets, towels.

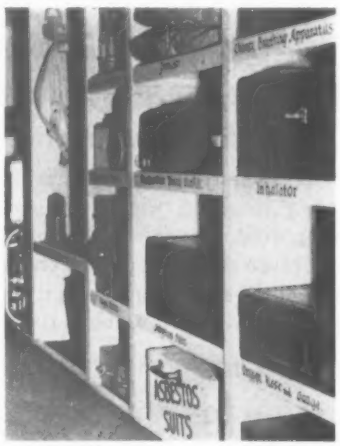
RESCUE: Chemox breathing apparatus, shallow water diving outfit, asbestos suits, complete burning outfit with oxygen and acetylene tanks, asbestos blankets, smoke or fume ejector with 45 feet of accordion tubing, wrenches, tools, jacks, bars, shovels, pike poles, etc., 2400-watt electric generator, all service masks, ropes.

FIRE: 500 GPM portable fire pump, 500 feet 2½ inch hose, 650 feet 1½ inch hose, 24 five gallon cans airfoam, full complement of nozzles, adapters, wrenches, etc., 9 CO_2 extinguishers, 6 2½ gallon foamite ex., 5 carbon tetrachloride ex., 2 30# dry chemicals, 40 foot, 3 section aluminum ladder, 14 inch aluminum roof ladder.

The trucks responds to all fire alarms and all ambulance calls, unless the injury reported indicates it is not needed. At times the unit responds to emergency calls outside of the company property. It is also available to the city fire and police departments and is a part of the New Orleans Civilian Defense Program.

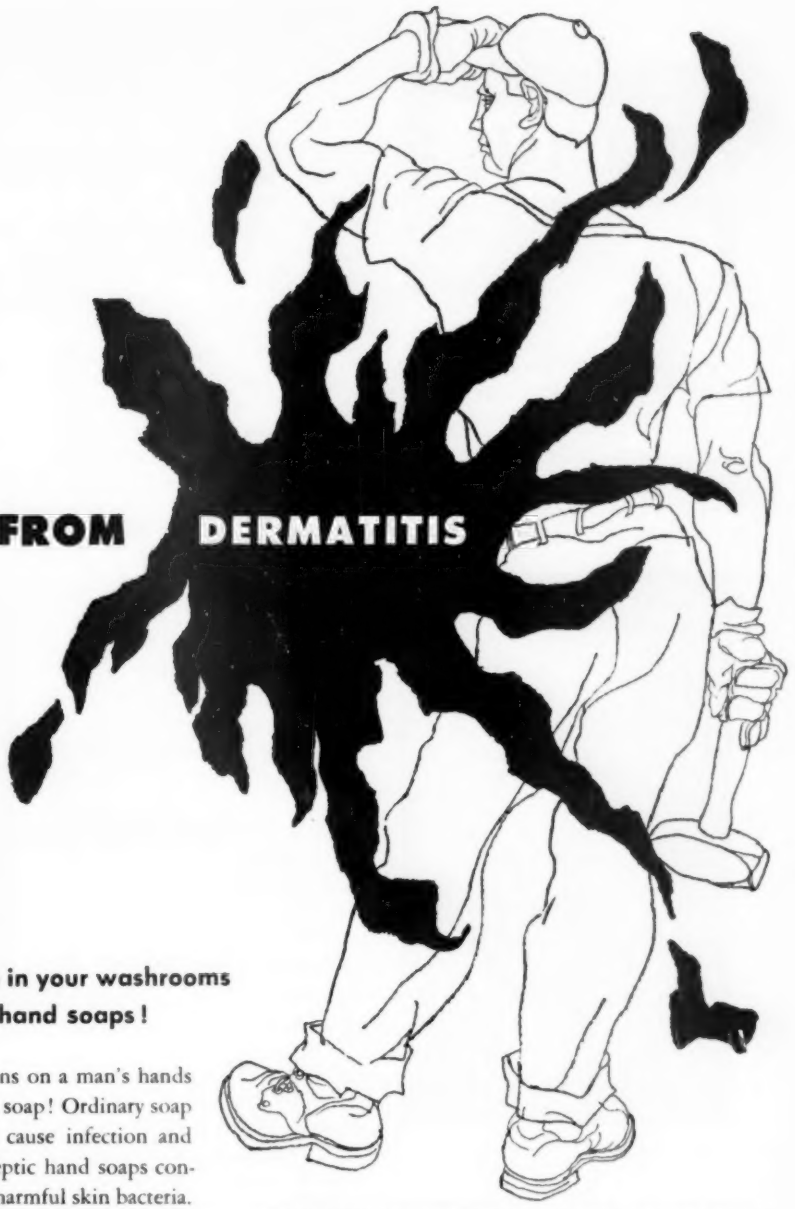
Three teams of seven men each have been trained to man the Emergency Unit—two teams on the first shift and one on the second shift. Each team includes four firemen, an electrician, a burner and a first aid man. All work in the area near the plant's safety headquarters where the unit is kept.

—*To page 90*



Interior of emergency truck, showing arrangement of equipment.

LEON J. BAKER is safety director, Higgins, Inc., New Orleans, La.



PROTECT HIM FROM DERMATITIS

Put Hexachlorophene protection in your washrooms with Armour's antiseptic hand soaps!

The cause of many skin infections remains on a man's hands *after* he has washed them with ordinary soap! Ordinary soap will *not* remove the skin bacteria that cause infection and dermatitis. But, because Armour's antiseptic hand soaps contain Hexachlorophene, they *will* remove harmful skin bacteria.

Hexachlorophene is the first germicidal agent ever found that stays antiseptic in soap. Daily washing with these Armour soaps containing Hexachlorophene will remove *up to 95%* of harmful skin bacteria! That's real protection for the people in your company.

So order Liquid Dial or powdered Formula #99 for your washrooms today! (You can order the powder form with either Borax or a vegetable scrubber added.) Request the samples and booklet offered at right and see for yourself how these Armour soaps protect against dermatitis!

Mail this coupon today

Armour and Company, 1355 W. 31st St., Chicago 9, Ill.

Please send me a free sample of:

- ☐ Formula #99 *Powdered* (with Borax, containing Hexachlorophene)
- ☐ Formula #99 *Powdered* (with vegetable, containing Hexachlorophene)
- ☐ *Liquid Dial* (containing Hexachlorophene)
- ☐ Booklet, "Antiseptic Hand Soaps for Industry"

Name_____ Title_____

Firm _____

Address _____

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ARMOUR *Industrial Soap Department*

Armour and Company • 1355 West 31st Street • Chicago 9, Illinois

PERSONALS

Earl Campbell to Direct NSC Western Region

EARL F. CAMPBELL, for the past seven years manager of the National Safety Council's Field Organization department, has returned to his native west as director of the Council's Western Region, with headquarters in San Francisco.

Earl F. Campbell

In conjunction with representing the Council in 11 Western States and the Territories of Alaska and Hawaii for NSC, he is directing the newly organized California Highway Safety Council.

The California Council, founded by a group of prominent business and civic leaders, plans a continuous and extensive program of accident prevention. Funds are available for a continuing state-wide program.

California chapters of the National Safety Council will play an important part in the plan. Cooperative action has already started. The California Highway Safety Council and the National Safety Council hope to provide an improved pattern for state-wide cooperation in accident prevention.

Before coming to NSC headquarters in 1946 from the Western Region management, Mr. Campbell had held important Safety posts in the Pacific Northwest and the West Coast and has a wide acquaintance there with business and industrial leaders and public officials.

IONE PAGE of the National Safety Council's Eastern Region office has resigned. She had assisted William Gaver in raising contributions for the Public Service Fund.

Miss Page had been with the Council since February, 1942.

LEO R. NUHFER, safety director for The Peoples Natural Gas Company, Pittsburgh, Pa., has been elected to a two-year term as chairman of the Accident Prevention Committee of the American Gas Association.

CHARLES W. PUNTON has been appointed director of engineering of Mine Safety Appliances Company, Pittsburgh, Pa. He has been with the company since 1929. He started as an industrial engineer and, in 1941, was named works manager. A graduate of the University of Kansas, Mr. Punton also received M.S. and I.E. degrees from the University of Pittsburgh.

A member of the Pittsburgh Chapter, Society for the Advancement of Management, Mr. Punton recently was one of three men nominated by the group for its annual Human Relations Award in recognition of their work for the Pennsylvania Association for the Blind. He also is a member of the American Society of Mechanical Engineers, American Society of Safety Engineers, Veterans of Safety, Delta Tau Delta Fraternity and the Pittsburgh Athletic Association.

Obituary

ROBERT MALCOM, SR.

The safety industry lost one of its staunchest supporters November 27 when Robert Malcom, Sr., chairman of the board of Chicago Eye Shield Company, died of a cerebral hemorrhage at his home in Elmwood Park, Illinois.

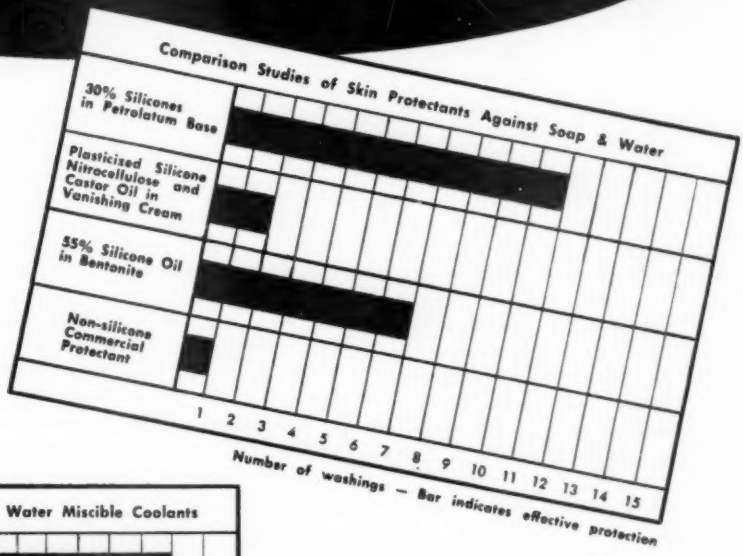
Robert Malcom, Sr.

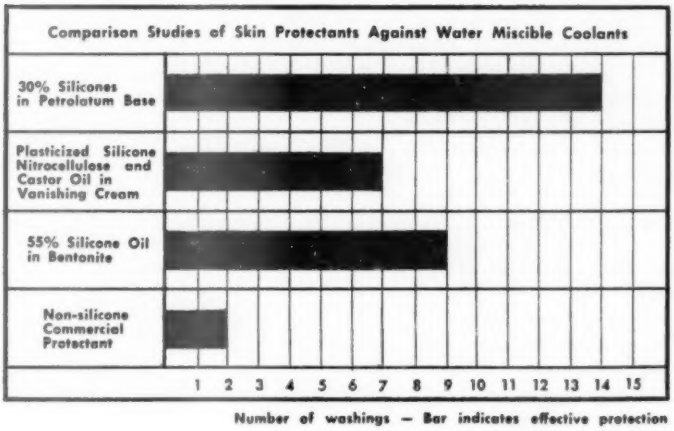
He founded the Chicago Eye Shield Company in Chicago, in 1903. Mr. Malcom took a keen interest in safety equipment for head and eye protection. He was particularly interested in the design and development end of the business and patented many items, later models of which are standard equipment today in plants all over the world.

Some highlights of his work were the development in 1924 of bakelight goggles for welding, chipping, and other hazardous operations; a one-piece positive pressure sand blast mask introduced in 1930; the comfort bridge gog-

—To page 90

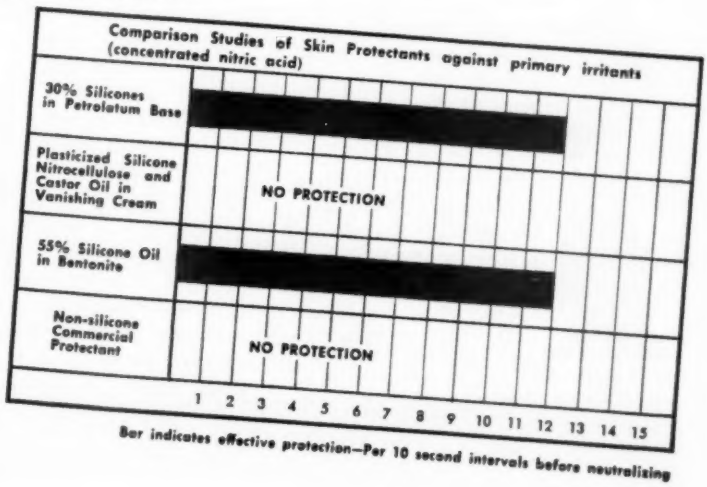
Comparison Chart Study of Silicone Containing Protectants*


Comparison Studies of Skin Protectants Against Soap & Water
30% Silicones in Petrolatum Base
Plasticized Silicone Nitrocellulose and Castor Oil in Vanishing Cream
55% Silicone Oil in Bentonite
Non-silicone Commercial Protectant
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Number of washings — Bar indicates effective protection


Comparison Studies of Skin Protectants Against Water Miscible Coolants
30% Silicones in Petrolatum Base
Plasticized Silicone Nitrocellulose and Castor Oil in Vanishing Cream
55% Silicone Oil in Bentonite
Non-silicone Commercial Protectant
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Number of washings — Bar indicates effective protection

Siladerm Skin Protectant is formulated of 30 per cent silicones in a petrolatum base. The above charts are respectfully directed to the attention of those practitioners interested in the problem of industrial dermatitis and other common dermatoses including "housewife's eczema."

*From "A Comparison Study of Silicone Containing Protectants" from the Department of Dermatology and Syphilology, of a leading University Hospital. Copies of the above paper will be sent upon request. The Siladerm Laboratories, Dept. B, Box 359, Oshkosh, Wisconsin


Comparison Studies of Skin Protectants against primary irritants
(concentrated nitric acid)
30% Silicones in Petrolatum Base
Plasticized Silicone Nitrocellulose and Castor Oil in Vanishing Cream
NO PROTECTION
55% Silicone Oil in Bentonite
Non-silicone Commercial Protectant
NO PROTECTION
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Bar indicates effective protection—Per 10 second intervals before neutralizing

Sanitation Is the Way We Live

By LOUIS A. KING, Jr.

Insects are among the worst menaces to health. Controlling them is 80 per cent housekeeping and 20 per cent use of insecticides

SANITATION is a little more than just an application of an insecticidal material. It's a little more than placing a trap or rodent-proofing a door. Sanitation is the way we live. Sanitation is the way our plants are operated. We will not have a sanitary plant unless we have organization. To have proper organization we have to have definite alignment of responsibility. There is no line of demarcation; maintenance itself is sanitation. Production is sanitation. All of our operating departments have a finger in the sanitation pie.

So our number one insecticidal material is work. We won't get insect control unless we do work. The first thing we must remember about insecticides is that in themselves they do not provide us with complete insect control. They merely augment our other sanitation processes. The second thing we must remember is insecticides are all poisonous. If they were not poisonous, they would not kill insects. They are also adulterants in a food product. Under the terms of the Federal Food and Drug Act, insecticides are permissible in the production of crops where it is entirely necessary that an insecticide be used. It has not been shown that insecticides are necessary in the processing of a food. Therefore, the presence of any insecticidal material in a food product, if it has gotten in during the processing, is an adulteration.

LOUIS A. KING, JR., is Director of Sanitation, American Institute of Baking, Chicago. This article has been adapted from a paper presented at a Sanitation Seminar conducted by Arwell, Inc., Waukegan, Ill.

We, therefore, have to look first to finding a material that is relatively nontoxic, but is toxic to the insects. Secondly, we must look to a method of application that in itself is safe.

There are three primary types of insecticides. The first is the contact type. We fog an area with it. We can smoke an area or we can direct the insecticide on the insect itself. Usually, the contact insecticides contain Pyrethrins. The last few years they have contained synergistic agents, such as piperonyl butoxide, sesame extract and others. The synergists have made the pyrethrin sprays much more effective than they had been in the past, but there are a number of disadvantages to the application of a contact spray.

Weekly Ritual

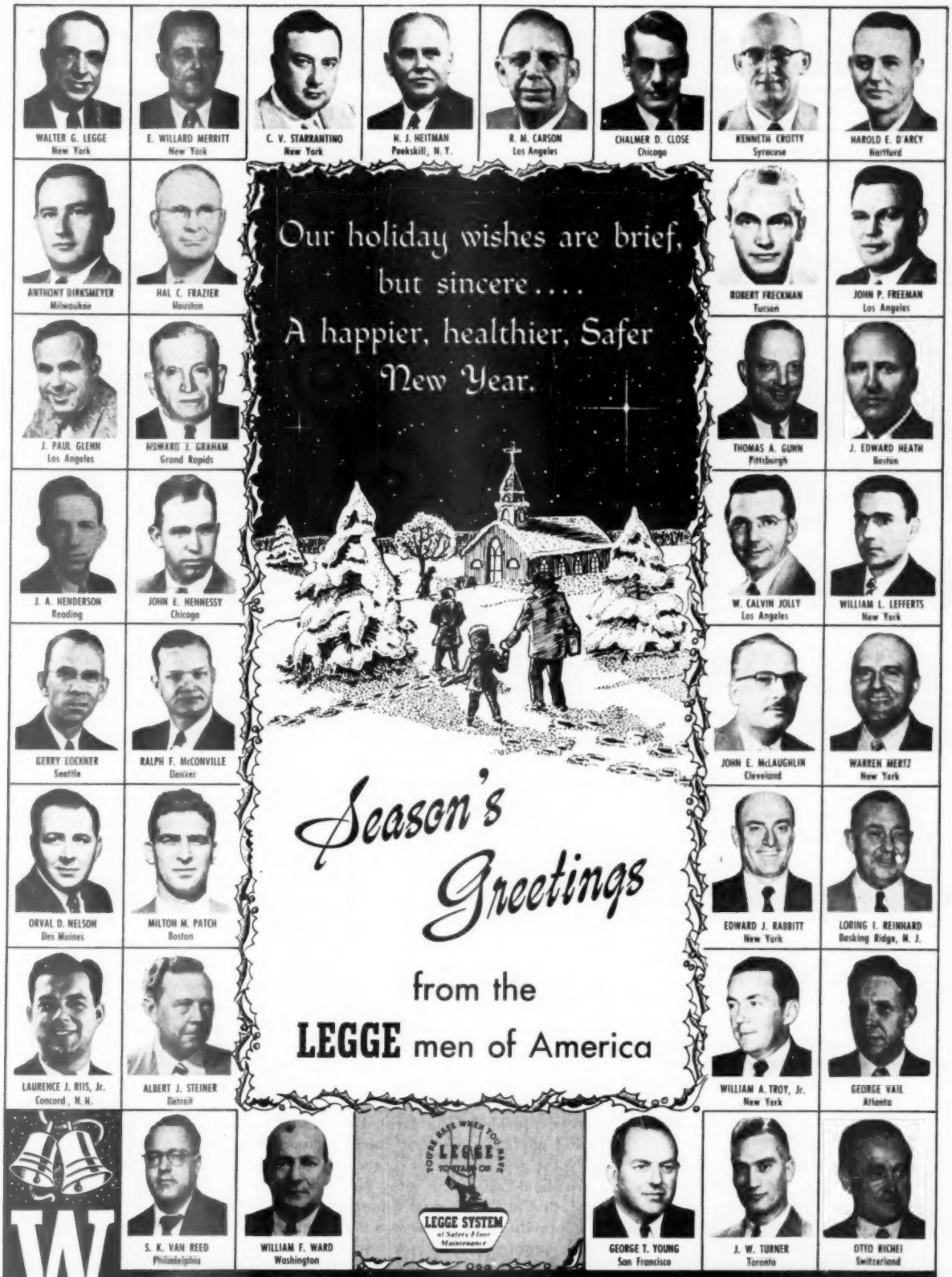
In the baking industry, it has many times been the custom to spray the building every Saturday afternoon at three o'clock. And why? Not because they had insect infestation, but because that was the most convenient time in the week to do it. Maybe on Tuesdays they had problems with flies, but they were in production so they would wait until three o'clock Saturday afternoon to carry out the measures when it was convenient. There are plants that have wasted thousands of gallons of contact spray, spraying it by the clock. The contact spray kills only when it contacts the insect. It kills only those that are relatively exposed. It will not penetrate dust-filled cracks and crevices, nor will it penetrate a layer of flour dust on overhead beams or pipes. We also have the problem of controlling the spray. To be perfectly safe, we should cover all of our food product zone areas as well as our ingredients. We have another problem in that the insects are not always killed.

Pyrethrum has an excellent knockdown effect, as well as a killing effect. If we sweep up the insects immediately following a spraying operation and put them in a material in which they can normally live, we will find that many of them will recover. In some instances it can be as much as 50 per cent.

Accent on Housekeeping

The second type of material is a residual deposit. The residual deposit started with D.D.T. during the war. D.D.T. has done a wonderful job, particularly in the elimination of the body louse. Following D.D.T. we have Chlordane. Chlordane is probably the most effective material we have against the cockroach. Those two materials have done an excellent job of eliminating insects. However, the Department of Agriculture tells us the entire insect population of the United States is higher today than it has ever been. There, we are fighting a losing battle and we'll have to keep fighting it. Experience has shown insect control is probably 80 per cent housekeeping and 20 per cent application of chemical materials.

The baking industry, in the past year, has gotten away from use of D.D.T. and Chlordane. The Food and Drug Administration has issued published data, showing Chlordane and D.D.T. are fairly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Our holiday wishes are brief, but sincere....
A happier, healthier, Safer New Year.
Season's Greetings
from the
LEGGE men of America
LEGGE
LEGGE SYSTEM
of Safety Floor Maintenance
Walter G. LEGGE Company, Inc., 101 Park Ave., New York 17

toxic to the human body, they build up in the body, and that it is possible where small concentrations have been taken in over a period of time to poison people. We have, therefore, turned to the use of Methoxychlor and Lindane. In some instances we use 5 per cent Methoxychlor and three-tenths per cent Lindane or we can employ 3 per cent Methoxychlor and five-tenths per cent Lindane. The Lindane is fully as acutely toxic as Chlordane or D.D.T. In chronic toxicity it does not have as much danger because this material is readily eliminated from the body. In other words, if you take in small amounts of Lindane each day this week and then for a week or two following you do not take Lindane, the amount in your body will disappear.

We recognize that D.D.T. and Chlordane will continue to be used to a certain extent. The Food and Drug Act does not prohibit use of the materials. The Government, to bring a case, would have to show that the product was contaminated. They would have to show that the product could become contaminated under conditions of the insecticide application. In other words, the use of the material per se does not constitute a violation.

We, therefore, for plants who apply the material themselves, have laid forth a number of precautionary rules. The first is that only one employee be designated to apply the material. Two, the material must be kept under lock and key at all times. Three, that the spray equipment should be painted a bright fire engine red to constantly remind the applicator the material is dangerous and should be applied with extreme caution.

Now, why do we say that? We have found instances in which employees have sprayed the insides of the flour-handling equipment with Chlordane. Shortly thereafter, they filled the bin with flour. There is no possibility under such circumstances that the flour escaped contamination. We will constantly have problems of employee failure, so we must take steps to prevent the employees from misusing the material provided. The particular type of applicator we have found best is the pressure type of sprayer.

We should apply the spray material, that is, the residual deposit, to non-product zone areas in a flat coarse spray so there is a minimum of misting and material does not run down the wall. We are using it entirely as a preventive measure, depending primarily on housekeeping as our primary tool of control. In addition, we will use precautionary measures to keep the insects from getting into the plant.

We will carry out a system of ingredient inspection. For ingredient inspection, we have advised the baker that for all materials

Film Pictures Operation of Construction Machine

RUSSIAN ROULETTE is a sucker's bet. The odds are good—5 to 1 that you won't lose—but there is nothing to gain and everything to lose.

A new Caterpillar Tractor Company film, *The Gamblers* points up how careless operators of heavy construction machinery often play a game with just as good or better odds than the infamous Russian pistol game of chance, but with the same dire results if they lose.

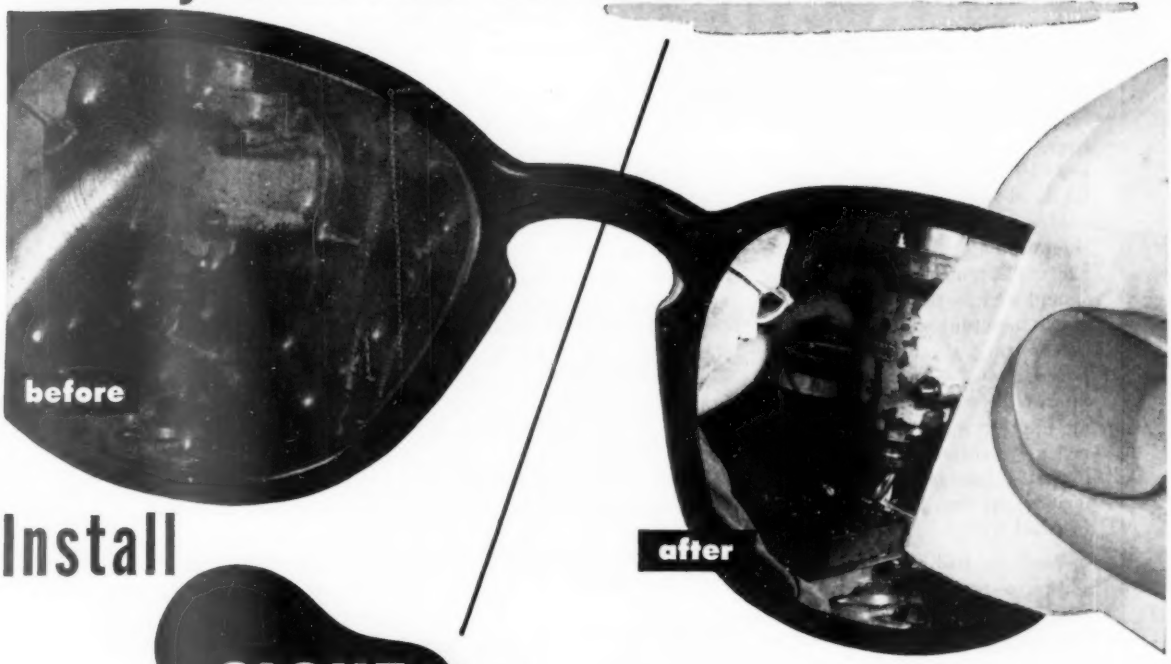
This non-commercial film takes a new approach to the promotion of safe operation of construction machinery. It avoids the usual "how to do it" approach to proper operation of machinery. *The Gamblers* documents many typical every day scenes on any construction job where an operator may get careless. It shows how accidents happen and the oft times fatal results that come of this carelessness which could be avoided.

The film had its premier showing before the Construction Section of the National Safety Council at the National Safety Congress held recently in Chicago.

"*The Gamblers* is an invaluable contribution to safety in the construction field. Both the scenes and narrative are presented in such a way that the film can't help but thoroughly impress on owners and operators alike the constant need for safety on their jobs," said William G. Hawkins, chairman of the visual aids committee of the Construction Section. Mr. Hawkins is insurance manager and safety director of Winston Bros. Company, a construction firm in Minneapolis, Minn.

The 20-minute film, produced by the Calvin Company of Kansas City, Mo., can be seen by contacting any Caterpillar Dealer.

Dirty Glasses are DANGEROUS



Install SIGHT SAVER Cleaning Stations

PROMOTE SAFETY **. . . 25% of all industrial accidents are caused by faulty vision.**

INCREASE PRODUCTIVITY **. . . 30-40% of production losses are traceable to eye-caused accidents.**

REDUCE ACCIDENT COSTS **. . . 1/2-billion dollars is the estimated annual cost of accidents due to foggy vision.**

IMPROVE MORALE **. . . make it easy for workmen to keep eyeglasses and safety glasses clean.**

Getting workmen to wear safety glasses eliminates one safety problem but introduces another hazard — DIRTY GLASSES. And that's why you need Sight Saver Cleaning Stations to supplement your eye safety program. SIGHT SAVERS provide the quickest, easiest way to keep eye glasses and safety glasses sparkling clean. They wipe away the best excuse workmen give for not wearing safety glasses.

There's no muss, no fuss, no fluids, no wasted time. SIGHT SAVERS are saturated with Dow Corning Silicones to simplify cleaning and polishing glass lenses; to give added clarity and luster. Tissues are just the right size, 3" x 7"; treated both sides. And SIGHT SAVER Cleaning Stations are easily installed on metal, wood, glass or tile walls. Foolproof, permanently lubricated dispenser eliminates waste, issues a single tissue at a time. No maintenance involved. Simply insert refill packet as required.

READILY AVAILABLE*
from leading Safety Supply Houses

Cat. No. 60 Black Dispenser	$2.50
Cat. No. 61 White Dispenser	$2.50
Cat. No. 62 Safety Green Dispenser	$2.50
Cat. No. 65 Refill Packet of 800 tissues	$1.45

****Write Dept. DZ-13 for list of Safety Supply Houses in your area.***

DOW CORNING Midland — DOW CORNING SILICONES — **CORPORATION** Michigan

which can be screened through a 30-mesh screen, he select four bags at random from each lot received. They should be screened. If he finds any insects from the four one-hundred pound bags, we recommend he sift six additional bags. If he finds an average of one-half insect per bag, the entire lot should be rejected and it should not be accepted under any consideration. The box car, truck or barge the material is received in should also be examined. If there is live insect infestation in the boxcar or truck, the lot should be rejected, but if examination of the interior of the bag shows there is no interior infestation, a lot can be safely accepted after it has been properly fumigated and the exteriors of the bags have been brushed.

We have had the Institute run several tests on insecticidal materials and have reached the conclusion that we do not know a satisfactory method of field testing. We moved into our new building in October of 1950 and for the first five months used a new insecticide material. We applied it at three-week intervals and checked the building frequently for signs of insect infestation. During the entire five-month period we found no insects whatsoever in the building. On that basis, we thought the material pretty good, but before we published the data, we decided to stop application of insecticides. It was eight months before we found our first insect. Through cleaning alone, we were able to achieve satisfactory insect control.

The other method of insect control is fumigants. There are five general classifications of fumigants. One is general, two is box car, three is tarpaulin, four is vault and five is spot. It would be a rare occasion that a general fumigation would be necessary in a food processing plant, with the possible exception of a flour mill. In our inspection program we have had two flour mills. For years they had a general practice of general fumigation at least three times, sometimes four times a year. We put them on a program of preventive housekeeping and they were able to go more than a year without a general fumigation. At the end of that period, they were more insect free than at any other time in their history. The plants were later sold, so we do not know their present condition.

The general fumigation is such that it should never be attempted by plant personnel. It's an operation that should be carried out by a person entirely familiar with the materials and who fully understand the risks. And in spite of the fact that experienced licensed fumigators make general fumigations each year, among experienced people we have fatalities, because they get careless. Therefore, general building fumigation is an item which should be carried out with the utmost caution and every local law should be followed so there can be no doubt the process is carried out safely.

★ ★ ★ ★ ★ ★ ★ ★

If the power to do hard work is not talent, it is the best possible substitute for it.
—James A. Garfield

★ ★ ★ ★ ★ ★ ★ ★

Box car fumigation should be done by a licensed fumigator, who fully understands the operation.

There are a few bakeries, and a few other food processing plants that have men trained to do the operation. Normally, the number of cars that require fumigation is low and in most instances it is the responsibility of the railroads.

Now, there's one thing I would like to point out in the rejection of a car of material for insect infestation. Don't send it back to the shipper! If you send it back, you are the shipper and if it's crossing a state line, under the Food and Drug Act, you're the guy criminally responsible for it and you'll finally end up paying the freight both ways.

There are two types of vault fumigation, atmospheric and vacuum. The vacuum type is by far the most successful but it requires a much larger expenditure of funds for the installation. I can cite the case of one new bakery in Texas, built within the last three years, where vaults have been installed. Every particle of flour that comes into the plant is put into the vault where it is fumigated overnight with methyl bromide. The next morning it's automatically exhausted and the flour is then moved into the storage area. In that way the plant is able to operate entirely insect free.

The next type of fumigation is tarpaulin. You must have a specially prepared canvas to cover the material to be fumigated. Methyl bromide is normally used, and it can be used where you have very slight infestation starting in material which must be stored for several weeks. It should never be used on material already definitely infested because it does not remove the insects. Even though you have killed the insects so use of that material will not be contrary to law, it would be contrary to good commercial practice.

The last method is spot fumigation. Spot fumigation can legally be carried out in some parts of the country and in other sectors it cannot be used. Local law prohibits it. Spot fumigation came into usage in the early thirties, and so, apparently when the law was written there was no consideration to local or spot-type of fumigation. In spot fumigation, the normal material used is a mixture of ethylene dichloride, and carbon tetrachloride. Both of these materials have certain disadvantages. A number of firms re-screen all possible materials to determine whether or not more suitable materials can be obtained.

Dr. Cotton was instrumental, in the early thirties, in screening a large number of materials. There were a number of materials which appeared to be good. I've talked with Dr. Cotton. The reason some materials were discounted at that time was they were not commercially available, so today we definitely need a complete revaluation

TUC-AWAY
MODEL 415

WATCHEMOKET eye SAVERS

EYE PROTECTION
YOUR WORKERS WILL WEAR

1 Light weight . . . a little over an ounce means complete comfort.

2 Easy on the ear . . . plastic "ball-chain" hook stays on . . . always comfortable.

3 Perfect fit . . . Retrax Temples can be adjusted by the wearer in an instant.

4 Easy on the nose . . . no pinch . . . universal bridge fits on the nose.

ONLY EYE-SAVERS HAVE ALL THESE FEATURES

LIGHTWEIGHT, SMART STYLING

Featherweight construction and attractive design are two important reasons why workers *like* to wear the Tuc-Away. Weight is only 1¼ ounces. Methacrylate lenses are two-thirds lighter than glass.

REPLACEABLE LENSES SNAP IN, SNAP OUT

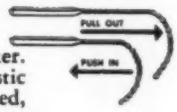
Clear or colored lenses can be removed and inserted quickly and easily by the worker. No need for a special repair department to meet different hazard conditions. Once in place they cannot be knocked out.

SIDE AND BOTTOM PROTECTION

Semi-cup lens provide clear, two-way protection. Also available for bench work with full (1") side shields and regular (½") side shields.

OPTICALLY CORRECT, BETTER VISIBILITY

Cast from methyl methacrylate, the only optical material that is naturally colorless and therefore absolutely clear. No distorted vision to cause eye strain.



EASILY ADJUSTED TO PROVIDE PERFECT FIT FOR ANYONE

Any pair of Tuc-Aways will fit any worker. All he has to do is telescope the new Plastic Retrax* Temples in or out. Once adjusted, the temples hold firmly in place. And Retrax Temples save you money — there is no need to stock extra frames of various temple lengths.

GREATER COMFORT THROUGH "BALL-CHAIN" HOOK CONSTRUCTION

Sturdy, light, all-plastic temples — the first to rival the flexibility and ear comfort of the popular metal Retrax Temples. Plastic "ball-chain" hook design fits comfortably over the cartilage contour behind the worker's ear. Stays on . . . comfortably.

SURE-FITTING UNIVERSAL NOSEPIECE

Nosepiece fits *on* the nose. It's a lot more comfortable, leaves no marks, does not pinch the sinuses. And it eliminates the expense of carrying extra size bridge stock.

SHATTERPROOF, SAFE

Lens will not shatter or throw a splinter into eye. Made just as hard and scratch resistant as possible without becoming brittle.

See Your Eye Savers Supplier, or write direct, for full Information on the Tuc-Away and other modern Watchemoket Safety Glasses.

Quality Eye Protective Equipment ***Made by the Leaders in Plastics***

WATCHEMOKET OPTICAL CO., INC.

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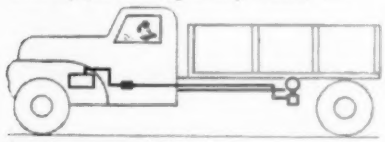
McDonald
REVERSALARM
keeps the road clear —BEHIND!

To protect workers in the path of backing-up trucks, equip your rolling stock with McDonald Reversalarm! Its powerful gong automatically sounds with unmistakable authority within the truck's first 8 inches of backward motion. Completely automatic — works even without truck motor running! Sturdy, weatherproof Reversalarm lasts for years — pays for itself many times over by preventing costly accidents.



Installing Reversalarm is easy. Its automatic interrupter switch connects to transmission speedometer cable take-off. Operates on 6- or 12-V systems.

WRITE FOR BULLETIN & PRICES

B-F-McDonald COMPANY
Manufacturers & Distributors of Industrial Safety Clothing & Equipment

Safety FROM HEAD TO FOOT

5721 West 96th St., Los Angeles 45
Other Offices in San Francisco and Houston

of materials available as fumigants. Two types of materials show promise. They are the halogenated hydrocarbons which have an addition of either one bromine radical or one fluorine. Bromine and fluorine are much more toxic than chlorine, but for some unknown reason when you hook in one more bromine or one more fluorine you end up with a material that still has promise as an insecticide but which is much less toxic to man.

One last method of insect control has been tried very little. We'll frankly admit that we have very little experience with it. It apparently was used some years back and fell into disfavor. We don't know why, but suspect it was because the equipment at that time was all wooden. The majority of our storage type of insects can readily be killed at temperatures of 120° or 125° for a period of one or two hours. So, someone said, "Why not use heat to kill insects?" There is a good bit of equipment we can easily heat to that temperature. There is no toxic material, no possibility of employee hazard. It's a field that should be investigated.

Those of you familiar with the proof box or fermentation room in the baking industry know that there we have heating equipment, and humidifying equipment. In several of those installations we have been able to shut off the humidifier, turn on the heat, and build the temperature up to 135°. All sawtooth grain beetles, which happened to be the infesting insect, were killed with what appeared to be 100 per cent effectiveness. We had been unable to control them through the application of either contact or residual sprays because they were hiding down in deep cracks.

Cold is rather rugged. We have one particular instance in which a bakery driver found two cockroaches in his truck. The truck was parked outdoors at 15 degrees below zero. He brought the roaches in and laid them down next to a radiator and a little while later he saw them crawling away! The time element involved and the temperature involved varies widely, for various insects but apparently the use of cold doesn't appear to be as applicable as the use of heat. A few insects, such as silverfish, require much higher temperatures to kill them than the average confused flour beetle. But the confused flour beetle, the saw-tooth grain beetle, the lesser grain borer, and the flat grain beetle and others of that type, which we commonly call bran bugs or flour weevils, give us the greatest amount of difficulty.

This has been a very, very hurried coverage of a subject I feel is as important as the rodent problem, for in the baking industry we have more difficulty with insects than we do with rodents. It gives you some idea of the materials that are available. But in the baking industry, we do feel that the choice of materials should always be for the safest, and that we will only achieve satisfactory results by the use of elbow grease.

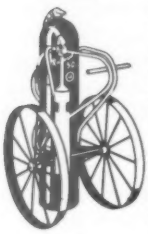
Largest Noise Reduction Unit at Lever House

ONE OF THE LARGEST noise reduction units ever constructed in this country is incorporated in Lever House, the new 24-story glass and stainless steel headquarters of Lever Brothers Company on Park Avenue, New York City.

The silencing system, installed in a louver 70 feet long and 15 feet high, quiets noise from seven giant blowers in the air intake unit of the air conditioning system in this building. It is located in a section of the city where apartment houses, hotels and night clubs are numerous. The only comparable silencing system, in cross sectional area, has been constructed in connection with jet engine test cells in the aircraft industry. The Lever House installation has 1,000 square feet cross section, while jet engine test cells are about 900 square feet, although the latter handle a larger amount of air than the unit at Lever House.

The silencing unit, installed by the Industrial Acoustics Company, New York City, is located behind the large second story louver facing 54th Street, directly across from apartment houses. The huge unit handles an air intake of 200,000 cubic feet per minute.

BETTER BECAUSE THEY'RE FASTER . . . FASTER BECAUSE THEY'RE PANIC-PROOF!



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Save up to 85% of washroom costs with new, faster drying Sani-Dri hand and hair dryers. No buying and storing of paper towels . . . no monthly service fee for cloth towels. Sani-Dri reduces maintenance overhead and provides 24-hour, automatic drying without mess and clutter. Washrooms are more sanitary with no towel waste and no fire hazard. All Sani-Dri models carry the Underwriter's seal of approval and **full 2 year guarantee!**

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No other dryer offers all the advantages of Sani-Dri. No other dryer gives you as complete a line of models to choose from for your particular washroom requirements.

HERE'S PROOF You, too, Can Save with Sani-Dri!

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Lever engineers feared that uncontrolled, the blowers, which force air through the air conditioning system, would make so much noise as to disturb occupants of adjoining buildings. The problem was to reduce this noise to equal or fall below the ambient noise level of the neighborhood.

Before the silencing system was designed and built a noise survey was made in the vicinity. It was necessary to take into consideration that the blowers operate from 7 a.m. to midnight. Inside the plenum chamber, a maximum noise level of about 100 decibels was recorded, while on a ledge of the apartment house 60 feet across 54th Street, the sound level meter registered a maximum of 75 decibels with the ambient at times dropping to as low as 55 decibels in this neighborhood.

Installation of acoustic panels for high frequency absorption and resonators for low frequency attenuation was one of the techniques used to reduce the noise level.

After installation of the devices, it was impossible to pick up sounds from the blower by ear or electronic instruments.

Plant Traffic System Helps Safety Record

Ever hear of a man getting ticketed for an improper vehicular turn indoors?

It happens occasionally, but not often, at the Plymouth plant in Detroit, world's largest automobile assembly plant. The half-mile-long plant has an elaborate system of licensing jitney drivers and of traffic control, including one-way streets.

It is one of the reasons that Plymouth has earned a reputation as one of the safest big automobile plants in the country. The plant received the National Safety Council's Award of Honor for its 1952 safety performance.

This was based on Plymouth's frequency rate of only 2.2 lost-time accidents per million man-hours worked and a severity rate of .05 of one day lost due to accidents per thousand man-hours worked. It compares with a national automotive industry lost-time rate of 3.62 and an over-all industry severity rate of .350. The automotive industry's over-all rates are, by the way, lower than the rates for all industry.

Plymouth moves more than six million pounds of material exclusive of bodies, frames and axles into the Detroit plant every work day. Some three hundred men operate the jitneys which move along the well-marked traffic lanes to keep the assembly lines supplied with parts.

Jitney drivers at Plymouth are required to pass far stiffer examinations than the ordinary automobile driver takes to get his operator's license. His safety performance is more closely watched. He takes pride in his safety record.

Materials handling is, of course, just one of many potential hazards—and not necessarily the most hazardous, according to O. W. Blenkle, Plymouth safety supervisor.

Blenkle believes the most important single factor in the steady and progressive reduction of Plymouth's accident rate has been the supervisory training program.

"Every supervisor in the plant is a safety engineer," Blenkle says.

"Most of our employees are safety-minded. We couldn't have built up the record we have without their cooperation."

Plant Forces Quell 87 Percent of Factory Fires

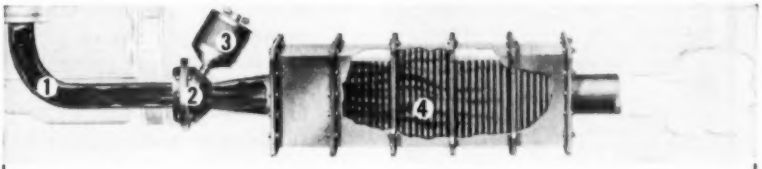
NINE out of ten industrial fires can be controlled with a combination of trained personnel backed up with adequate portable fire-fighting equipment, the Fire Protection Institute reports. This conclusion is based upon a recent survey of fire fighting results by safety directors in charge of an industrial cross-section of nearly 500 large factories in the United States.

These safety directors reported that 87 per cent of the 1,759 fires on their properties last year were put out while they were small, by plant fire brigades and trained plant personnel armed with fire extinguishers and other portable fire-fighting equipment. In only 83 cases were municipal fire departments needed to extinguish blazes.

The Most Important Safety Development in Exhaust Fume Control . . . Death to Carbon Monoxide and Hydrocarbons

The OCM Catalytic Exhaust

A Houdry Catalyst Development



(1) Connection to engine exhaust manifold. Cubic inch displacement of engine determines number of catalytic units needed. Almost any size engine can be equipped. Tested and listed by Underwriters Laboratories, OCM is strong—rupture-proof under explosion. • **(2)** Venturi or air inlet connected directly to exhaust manifold flange. Introduces fresh air into exhaust gas stream to provide necessary oxygen. • **(3)** Fresh air filter prevents contamination—keeps foreign matter from entering exhaust system. • **(4)** Catalytic units here eliminate carbon monoxide, hydrocarbons, fumes and odors. Units give 2000-2500 hours of trouble-free service—can then be quickly, economically replaced. OCM Exhaust imposes no more back pressure than standard muffler—often less. A thermocouple connected with pyrometer on instrument panel keeps constant check on catalyst efficiency. Non-leaded gasoline must be used.

A death sentence for two killers — a proven answer to one of industry's most critical problems — that's what the OCM Catalytic Exhaust means to you today.

You know the deadly risk of carbon monoxide wherever gasoline-powered equipment is used indoors. The hydrocarbons in exhaust fumes are even more dangerous. Now, with the OCM Exhaust, both these threats to life and health can be easily, economically ended.

Now, with the OCM Exhaust, you can operate lift trucks, tow trucks, loaders, auxiliary generators — *any type of machinery run by an engine burning non-leaded gasoline* in even the most closely confined areas—continuously, efficiently, *safely*. And *without the cost of extensive ventilation systems.*

The OCM Catalytic Exhaust eliminates 95% or more of the carbon monoxide—99% of the hydrocarbons — from any engine in which you use non-leaded gasoline. Connected to the engine exhaust manifold, strong, compact catalytic units "burn out" harmful, foul-smelling fumes and odors before they reach the air you breathe.

Think of the significance. The exhaust fume problem is great and growing. Now, with the OCM Exhaust, you can have cleaner, safer air inside your plant. For your employees this means an end to fume-caused headaches, eye irritation and nausea — perhaps serious undermining of health. For *you* it means all the advantages of higher employee productivity and morale.

Easily Installed By Your Own Mechanics

The OCM Catalytic Exhaust is designed to replace the standard gasoline engine muffler. It is available as original equipment from leading concerns such as *Clark Equipment Co.*— or can be fitted right on your present gasoline engines. Your own mechanics can install it quickly, easily, without changing clearances.

The OCM Catalytic Exhaust is today a proven success — used by many of the country's biggest industries.* Developed by the noted inventor, Eugene Houdry, who discovered the catalytic cracking process and who has given half a lifetime to catalytic research, the OCM is the most important safety development in exhaust fume control ever produced. Wherever *you* operate gasoline-powered equipment indoors — even part time — you have a real, a critical, need for the OCM Catalytic Exhaust. Write now for complete technical information and name of nearest supplier.

* *Names of users on request*

NOTE. This company makes catalysts for air pollution control and waste heat recovery in drying ovens, incinerators, oil refineries, and many other industrial operations. Write for details.

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WAYNE, PA.

Send in the coupon below for new illustrated folder on the OCM Catalytic Exhaust, and complete technical information.

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Send me complete technical information on the OCM Catalytic Exhaust and name of nearest supplier.

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Leading industrial doctors advise immediate washing with plenty of running water as the best first aid treatment for any chemical in the eyes. Records prove that washing with water for ten minutes or more, close to the accident, is necessary to reduce or eliminate eye damage.

Forehead operation leaves hands free to open eyelids so water can be directed wherever chemicals might be lodged. Sanitary white baked enamel bowl is resistant to most fumes.

Over 500 industrial plant installations have been made to date.

Write For Details.

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NEW EMERGENCY SHOWER

The B & A Shower is the quickest and most satisfactory way to saturate a worker with gallons of water the instant an accident occurs, to prevent a disfiguring burn—even a fatality.

Special shower head, no holes to clog—can be used where unfiltered water prevails.

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GLASS SLIVERS AND CHEMICAL IN EYES!

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CUTS AND CHEMICAL BURNS ON ARMS AND BODY

THIS HAPPENS WHEN UNPROTECTED GLASS BOTTLES ARE BUMPED

NEW LOW COST B & A SAF-T-BAGS

are widely used for the safe handling of glass bottles containing harmful chemicals; also the storage and recovery of expensive serums, biologicals, and other costly products.

Painful cuts, disfiguring burns, loss of eyesight, or even a fatality, do result from corrosive liquid splash and flying glass when unprotected bottles shatter.

5 PINT
1 GALLON
5 GALLON

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Sprinkler systems were credited with putting out 35 fires.

As a result, these safety directors stated, the reporting factories had an exceptionally low loss of only one life and property damage of less than $1,500,000. This compares with a loss of $39,000,000 tabulated by one statistical agency for 88 smaller factories having large loss fires in 1952.

The largest companies not only showed the greatest interest in equipping and training company fire brigades and personnel but also reported the lowest ratio of fire losses. Nearly 90 per cent of all plants queried in the Fire Protection Institute survey, reported established, well-equipped and trained fire brigades or plant protection (security) groups. Nearly 60 per cent of them had both. One third of the factories reported no fires at all during the past 12 months.

In explaining how the fires were extinguished, the companies reported:

1332 extinguished by fire extinguishers.

593 extinguished by fire brigades using extinguishers, water, sand and other professional equipment such as motorized pumper trucks, etc.

202 extinguished by other plant personnel usually production line employees working on processes having inherent fire hazards.

82 extinguished by municipal fire departments.

35 extinguished by sprinkler systems.

This totals more than the 1,759 fires listed, as many plants used more than one means to combat the blazes. Despite heavy reliance on their own manpower and equipment, industrial safety directors reported that except where a fire was extinguished almost immediately, it was standard practice to notify the professional fire department, so that their own forces could be backed up with reserves in case the blaze got out of hand. They state that municipal departments do not object to answering a call and finding that a fire had already been extinguished.

Injuries to personnel (5) were reported as negligible, except for the one death mentioned. Loss of working time was extremely low. This was considered of great importance both to the employees and to management. As one director commented, "Of businesses seriously damaged by fire, 43 per cent of them never resume operation. Of the remaining 57 per cent which get back on their feet, 28 per cent of them fail within the next three years. While this may not apply in the same degree to large corporations such as ours, certainly our employees have much to lose if one of our plants is burned out. Sometimes a corporation has found it economically advisable to rebuild in another location and the employees are out of work if they can't move to the new city."

Industrial safety directors were almost unanimous in their opinion that plant fire brigades furnish the least expensive "first line of defense against fire," although several admit that they have had a difficult time convincing their management. This again is a trouble found mostly in smaller companies.

Approximately 10 per cent of the plants plan additions to their fire brigades, both in man power and equipment in 1953, to keep pace with factory expansion. Eighty-five per cent wanted more training aids for their personnel and to be kept advised of new professional fire-fighting techniques.

Several safety men mentioned the increasing number of industrial plants located some distance from the heart of town and fire houses. In such cases, the establishment of a well-equipped company fire fighting force is vital to plant safety and continued production.

One comment by a safety supervisor was directed at his local community. He wrote, "If we had called the municipal fire department for every fire we had last year, the additional taxes to maintain the department would have cost us and taxpayers more than we pay to run our company fire brigade. We found out that we not only save money but also provide ourselves with an immediately available force to fight blazes. When the municipal department answers our calls, it leaves the rest of the community virtually unprotected because we are some

Millions of Gallons of Gasoline are here protected against fire by a Rockwood Double-Barrelled FOAM Chamber.

Jet action for a fire

The cylindrical objects at the top of the gas tanks in the picture above are Rockwood Double-Barrelled FOAM Maker Chambers — protecting millions of gallons of gasoline.

Should fire occur, the FOAM-Making Chambers would quickly control it, thus preventing any rupture of the tanks and the resultant spill fire. Such a fire could endanger the industrial area along the river 25 yards away and the entire river traffic, much of which is strategic material, hauled by river boats.

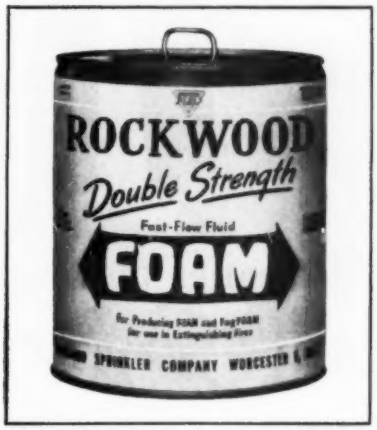
Due to a special jet action, the manually controlled Rockwood Double-Barrelled FOAM Maker Chamber puts a smothering FOAM blanket *swiftly* over flames, controlling and extinguishing the fire. Internal impinging jets discharge into two concentric barrels, one within the other, dynamically mixing air, water and FOAM liquid into a finer bubble structure than ordinarily possible. This construction is a patented one and typical of the many ways in which Rockwood engineers water to cut fire losses.

ROCKWOOD SPRINKLER COMPANY

Engineers Water . . . to Cut Fire Losses

How Rockwood Engineers Water to Cut Fire Losses

The Rockwood Double-Barrelled Foam Maker Chamber has a patented, compact design that eliminates supporting brackets, makes it easy to install. Also easy to inspect from top of tank. Wide range of sizes.



Rockwood Double Strength Foam puts out flammable liquid fires quicker, at lower cost. Three parts FOAM and 97 parts water create a heat-resistant blanket. Double strength FOAM flows freely at −15°F.

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Protective Clothing by *Sawyer*

Wears like iron — takes endless rubbing, scraping, snagging, and still gives full protection.
100% Waterproof — made with top quality base fabric saturation-coated first and then coated with 6 coats of Neoprene Latex.*
Positively will not blister, crack or peel. Its longer lasting quality means greater economy.
Also: Three-quarter and long coats, aprons, coveralls and many other styles. All clothing made in black or yellow.

**Sawyer fabrics are coated by The Brunsene Company, a division of*

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distance from the fire house. This we have prevented by having our own force."

The Fire Protection Institute suggests that management of smaller industrial plants study the economics of providing themselves with plant fire brigades. It is pointed out that large industrial plants have found their fire brigades helpful to employee morale in addition to being insurance against fire destruction.

Company reports were furnished to the Fire Protection Institute on a confidential basis. A few industries included in the survey were: chemical plants, sugar refineries, oil and gasoline producers, atomic energy plants, steel, copper and aluminum fabricators, automobile assembly lines, paint manufacturers, airplane factories, moving picture and radio studios, flour mills, soap manufacturers, electrical manufacturers, distilleries, shipyards, machine tool works, pharmaceutical plants, rubber manufacturers, paper mills, and even manufacturers of fire engines and extinguishers. Yes, they had fires too, but they put them out with their own products.

Obituary

—From page 76

gle patented in 1937: improved designs of welding helmets and face shields brought out in 1943: plus many other patented products.

Although 82 years of age at the time of his death, Mr. Malcom was still actively engaged in the business up until two days before his death. Mr. Malcom is succeeded by his son Robert Malcom, Jr., who became president and chief development engineer in 1948.

Ready When Needed

—From page 74

During eight months of service, the unit has proved its value many times. The use of the breathing apparatus has permitted safety firemen to penetrate smoke areas quickly to reach the seat of the fire. It is a self-contained unit that generates its own oxygen. The shallow water diving outfit has saved hundreds of dollars in time by being immediately available for inspection and repair of our mobile dock.

Having resuscitating equipment available has helped save more than one person who needed oxygen immediately, as well as those suffering shock from injury. Recently, an employee was knocked unconscious by lightning, and he owes his life to the quick use of the pneolator, which administers artificial respiration automatically. During a recent tornado disaster, our unit was among the first to arrive on the scene, a residential area 2½ miles from the plant, bringing an electrician, a burner, firemen and first-aiders to the assistance of those stricken. We know the unit has paid for itself.

This mobile safety unit has been viewed by insurance representatives, fire chiefs, Army and Navy personnel, civil defense executives and Labor leaders. All were enthusiastic in their praise of the amount and type of equipment and the procedure developed to handle it.

One of the safety experts who examined the truck and its equipment remarked that the company must have invested at least $35,000 in such a unit. The fact is that most of the equipment was already available in scattered locations throughout the plant and the only cash outlay was $1344 for some new apparatus.

Rand Mines

—From page 19

The non-European labor force is recruited from tribes in the Union of South Africa, Portuguese East Africa, British Protectorates of Basutoland, Bechuanaland, Swaziland, Nyasaland and Southern and Northern Rhodesia. This should give an idea of the staggering language barrier. Add to this the prevalent illiteracy of the Natives, and imparting any sort of a message, to them, becomes a rather large problem. With the exception of the few who are in clerical or supervisory positions, Native mine workers spend only a small part of their working life on or in the mines.

The custom of these Natives is to alternate periods of one year to 18 months of work, with spells of about a year each at their

What's so different about this worker?

He's using the new Scott Industrial Wipers. He likes them better—so do people in management

Scott wipers are the result of years of testing and research. They're designed to meet your general industrial wiping needs—big or small.

Each Scott Wiper is safe and sanitary—double ply, strong and absorbent. They're disposable—throw them away when fully used. This means new standards of safety and user comfort. Their uniformity of size and performance now allow you to budget wiping just like any other production operation.

A trial installation supervised by one of our technicians working with your people has developed to be the most accurate way to prove this product. If you would like information on such a trial period—and the full story on Scott Wipers—mail coupon below.

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Your 2 best tools deserve the best protection . . .

JOMAC WORK GLOVES

Thousands of industrial plants are making enthusiastic reports about Jomac Gloves. They tell us that these twisted loop fabric gloves give better protection, provide a cushion against rough surfaces, sharp edges, bruising shocks—they keep workers on the job, they increase production.

Jomacs are economical too. They outwear ordinary gloves by 700%, can be washed or dry cleaned repeatedly without losing their protective qualities.

Time lost is money wasted. Give your workers better hand protection—give them Jomacs, the only work gloves made with job-tested Jomac Cloth. Write for our complete catalog. Ask about a trial order. C. WALKER JONES CO., Philadelphia 38, Pa. *Plants in Philadelphia, Pa., and Warsaw, Ind.*

JOMAC

INDUSTRIAL GLOVES

homes. During their "furloughs" much that has been taught in previous periods of work is forgotten, and refresher courses in safety measures, as well as instruction to newcomers, are necessary.

Educating the Native workers —safety-wise—was the job of the Prevention of Accidents Committee. To quote the booklet published by Transvaal, to commemorate the fortieth anniversary of their safety program; the objectives of the Committee are:

1. To give leadership in the organization of safety campaigns at the mines.
2. To stimulate and maintain general interest in safety measures by distribution of information regarding prevention of accidents.
3. To investigate devices and ideas by which accidents might be prevented and to conduct experiments or trials with a similar objective.
4. To collect from the mines, and tabulate, information concerning methods of procedure which they consider to be conducive to reduction in the accident rate, and thereafter to make such information generally known.
5. To collect statistics and information regarding accidents and to make these known to the managers of the mines.
6. To conduct safety propaganda work among mine employees, both European and Native.
7. To encourage first aid and ambulance work.
8. To suggest, by means of propaganda, methods by which the general health and welfare of the workers may be improved.
9. To study the progress of the safety campaign in other parts of the world.

By propaganda they mean educational messages.

Some idea of the magnitude of the mines may be obtained from the size of the working force. About 47,000 Europeans and 330,000 Native workers are employed by mines which are members of the Transvaal Chamber of Mines.

Has the Committee reduced accidents? In 1912, the year before the safety group was organized, the accident death rate was 3.9 per 1,000 workers, per annum. Last year, the rate was 1.69 per 1,000 workers. This shows a decrease of more than 50 per cent in the rate. Perhaps the results of the Committee's work would be more impressive if expressed in terms of lives saved. If the accident death rate for 1952 had been the same as for 1913, fatalities in Transvaal mines would have been

ZORBALL *for* SAFETY!

Sprinkle freely on icy, slippery, wet walls, drives, etc.

ZORBALL *absorbs oils, greases, paints, chemicals.*

For ICY slippery surfaces!

ZORBALL will stop slipping, skidding—prevent accidents on steps, walks, loading docks, ramps, etc. You can use it, also, to stop skidding of autos, trucks, buses, material handling vehicles . . . in plants, drives, parking lots, etc.

Zorball *contains no chemicals* . . . is harmless to concrete, asphalt, wood surfaces, plants, and grass. Won't stain rugs or carpets.

Carry a bag of ZORBALL in your truck or car for use on snow and ice. Take a bag home for steps, walk, and drive. Mail coupon for data and sample.

For OILY greasy floors!

Wyandotte ZORBALL is a *different* and *better* floor absorbent. It won't BREAK DOWN, mud, dust or cake.

And, equally important, it *continues* to be skid-proof even after absorbing saturation quantities of oils, greases, paints, chemicals or water. In fact, after drying out, it can even be used again.

Zorball is the most effective, lowest-cost floor absorbent you can buy. Endorsed by safety engineers and management alike.

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Helpful service representatives in 138 cities in the U.S. and Canada

Largest manufacturers of specialized cleaning products for business and industry

Mail coupon today for data or FREE SAMPLE

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Send FREE sample of Zorball ☐ for icy surfaces ☐
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AKBAR
Rolling Fire Doors Made Only By KINNEAR

Protection afforded by Akbar Doors is illustrated by these photos showing opposite sides of the same Akbar Door. Note the complete destruction on one side of the fire wall, while the room on the opposite side remains completely intact.

More Safety Features

Kinnear Akbar Fire Doors provide fast, positive fire protection at doorways and other wall openings.
Doors are automatically pushed downward when fire threatens. A strong spring provides positive action. Downward speed is controlled to insure safety for building occupants . . . and the doors can be opened easily for emergency exits. They automatically close again at once.
Another Akbar safety feature stops the door at sill level, even if the floor is burned away. A special locking device prevents the curtain from coming off the spool.
When not in use, Akbar Doors coil out of the way over the lintel. Approved and labeled by Underwriters' Laboratories, Akbar Doors can save as much as one third of their cost per year in reduced insurance rates!
Each Akbar Door is engineered for the specific opening, insuring the ultimate in closure.
Akbar Fire Doors can be equipped for daily use with motor or manual operation if desired. Where maximum fire protection is not required, non-labeled Kinnear Rolling Doors are recommended.

LARGE SIZES: Kinnear makes doors for firewall openings ranging up to many hundred square feet in area. These large doors are built with the same safety and protective features offered in the labeled doors described above.

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SAVING WAYS IN DOORWAYS **KINNEAR** ROLLING DOORS

731 more than was actually the case.

The improvement was attained in spite of the fact that there has been great expansion in the mining industry, increased mechanization and the introduction to mining of many Europeans and Natives with no previous knowledge of underground work and its hazards.

The Prevention of Accidents Committee has been a member of the National Safety Council for some 30 years and has made liberal use of Council material. Considerable ingenuity has been used in adapting material from the U. S. A. and Great Britain to the highly complicated problems of the South African mines.

Edmund Steinberg, for many years secretary of the Committee, was a speaker at the 1933 National Safety Congress in Chicago, describing the results of the first twenty years of accident prevention work on the Witwatersrand. The second twenty have shown continued progress.

Assembly Carts

—From page 54

to each location. The two front wheels are fixed and the rear two are on swivels enabling the cart to make a small turning circle.

The initial sub-assembly compressor frame, though bulky in shape, is comparatively light at this stage and is easily loaded on the cart at the No. 1 assembly point by two men. When setting the initial frame into the open cart cradle, only a slight pressure on the hand control is needed to trigger off a spring catch allowing a holding pin to drop by the force of gravity into the sprocket where it is easily locked in place.

Evan Stallcup, Phoenix AiResearch safety engineer, reports the new assembly cart saves operator fatigue, insures damage-free transit of the delicate mechanisms and has reduced the possibility of accidents, particularly sprains and strains caused by lifting, to an absolute minimum. In fact the AiResearch turbo department has had no injuries concerned with lifting or handling the compressors since the assembly cart has been put in use.

Revolution in Lighting

—From page 39

lighting equipment that has better shielding and upward light.

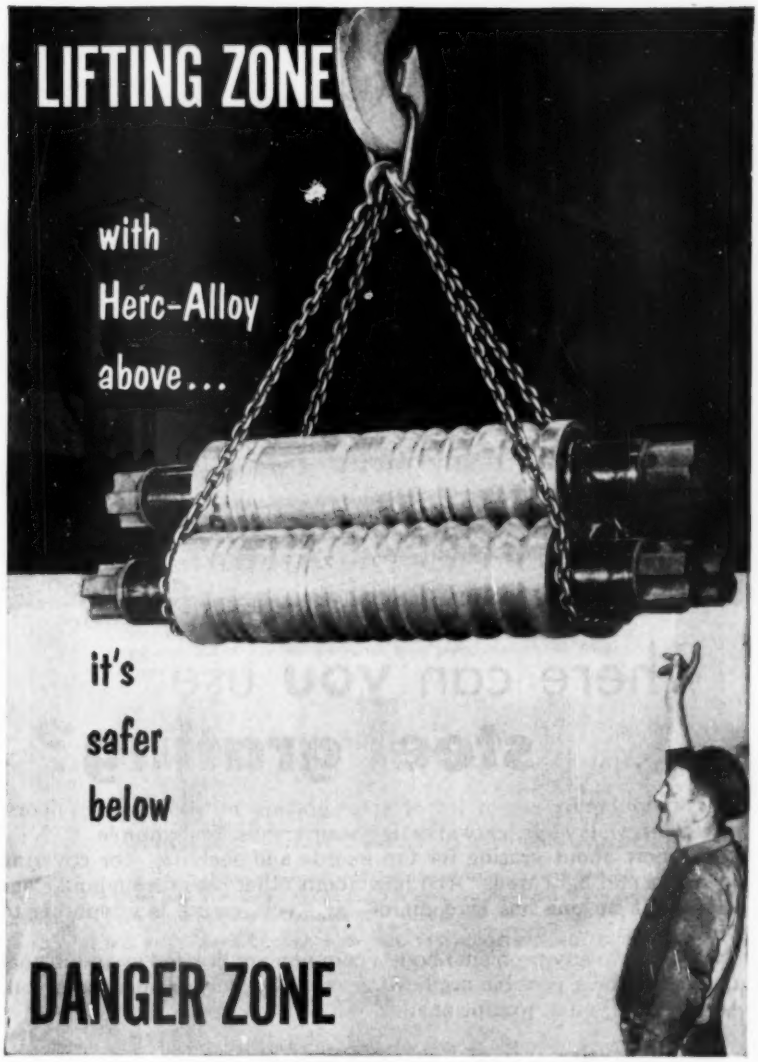
In the past, many fixtures had too little shielding, thus exposing workers to direct glare. In addition, there was no upward light from most of these units to lighten the ceiling and thus reduce the contrast beween the dark ceiling and the bright light fixtures. Now ceilings, walls, floors and machines are being finished in lighter colors to reduce brightness differences and improve comfort. In addition, these lighter surfaces absorb less light, thus saving lighting dollars.

The industrial lighting revolution of balanced brightnesses with its accompanying increased comfort now make it practical to go to higher lighting levels. We have always known that it was desirable to have higher levels in most industrial areas; however, it was not possible to get these levels comfortably. Now that we can obtain this type of lighting, there is a strong likelihood that even more improvement in safety records will be obtained.

The new industrial fixture, with 20 to 30 per cent upward light, has brought with it a dividend of improved maintenance. The openings at the top of these units help to create a "chimney" effect, which allows the air currents to carry much of the dirt up through the fixtures without depositing it on the reflecting surfaces. This results in a higher maintenance factor for the fixture because less light is absorbed by the reflector. Fixtures of this type tend to stay cleaner longer than fixtures without openings at the top.

Other lighting developments have accompanied the industrial lighting revolution. One is the increased trend toward the use of fluorescent lamps in industry. There are several reasons for this trend. The high efficiency and long life of fluorescent lamps reduces lamp replacement and energy costs.

Thus, a fluorescent system is often more economical than either mercury or incandescent in high mounting applications. Favorable economics plus low brightness and



SPECIFY
HERC-ALLOY
SLING CHAINS

Write for Data Book

HERC-ALLOY
Sling Chains are registered by individual serial number and can be rebuilt or replaced at any time to original specifications.

The Allegheny Ludlum Steel Corp., pictured above, uses Herc-Alloy Sling Chains for hundreds of tough lifting jobs in its plants. In addition to maximum safety, Allegheny Ludlum also enjoys the extra economy of longer-lasting Herc-Alloy. These sling chains offer still another advantage...a weight reduction unmatched by any other alloy chain without any sacrifice in tensile strength. This reduces worker fatigue. All things considered, don't you think Herc-Alloy Sling Chains are worth a try in your plant.

CM
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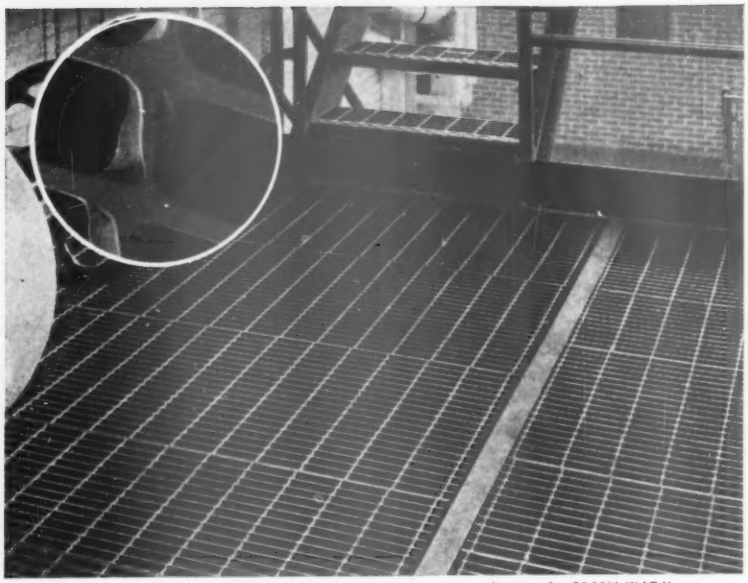


Grating by BLAW-KNOX

where can **you** use **steel grating?**

You undoubtedly use a lot of steel grating in your plant—floors, platforms, walkways, catwalks and stair treads, for example.

But how about grating for fan guards and shelving—for covering open pits and light wells? And how about other uses throughout your plant that no one has thought of—as steel grating is adaptable to many uses.

If you have any problem about a common application or an unusual application or a possible application, we'll be glad to hear from you. And to give you a prompt answer.

Only Blaw-Knox Electroforged® Steel Grating and Stair Treads

—have these five exclusive features:

1. **rigid one-piece construction—easy to install**
2. **all surfaces accessible—easy to paint**
3. **no sharp corners to clog—self-cleaning**
4. **maximum open area—for light and ventilation**
5. **non-slip twisted crossbar—safe footing**

A short note will bring you a copy of new Bulletin No. 2365-R —a dimensional sketch will bring you a quotation.

BLAW-KNOX

BLAW-KNOX COMPANY
2078 Farmers Bank Building • Pittsburgh 22, Pennsylvania

BLAW-KNOX EQUIPMENT DIVISION
GRATING DEPARTMENT

GRATING APPLICATIONS: floors • platforms • walkways • catwalks • stair treads • fan guards • shelving • and many other uses, both outdoors and indoors, for versatile steel grating.

good light distribution from fluorescent units make possible lighting installations of high quantity and quality of illumination.

For a given lighting level, more fluorescent lighting units are needed than for incandescent or mercury systems. This makes it desirable to install and follow a good planned maintenance program.

By using modern cleaning techniques and equipment, much time and labor can be saved in maintaining the lighting system. A means of reaching the lighting equipment for servicing must be provided. Devices such as catwalks, maintenance cages, or disconnect hangers can be designed into the lighting system. If this is not done, scaffolding, ladders, or elevating platforms may be used. There is a great variety of this type of equipment on the market.

One of the newest maintenance devices of this kind is the lift truck. Most of these trucks have elevating platforms which hold the maintenance man and his equipment. They are usually self-propelled and some of them have fixture washing tanks and water heating units. Besides maintaining lighting, these trucks may be used for other jobs around the plant such as washing room surfaces and other repair work.

Industrial plants can reduce maintenance costs appreciably if they follow a good planned maintenance program and use proper equipment. Even under these circumstances, however, it may often be more economical to hire a maintenance company to maintain the lighting system. This is true because the maintenance companies use trained men, efficient techniques, a great variety of special equipment, and assembly line operations. They are experts in maintenance because it is their business. For this reason, they can diagnose and repair lighting troubles quickly and efficiently.

One method of saving money, which is followed by many maintenance companies, is the use of a simplified lamp replacement plan. This plan can be used by most industrial plants as well as maintenance companies to save time and money in replacing lamps.

The majority of the time spent in replacing an individual lamp is consumed in preparatory operations: getting the lamp and ladder to the fixture, climbing up and down the ladder, removing the louver, etc. The actual replacement of the lamp takes a relatively small portion of the total time. If, therefore, all lamps in a particular area are all replaced at once, the time spent *per lamp* in preparatory operations is greatly reduced.

Since group relamping is usually done at 50-85 per cent rated life, additional lamps are needed with this plan. If the cost of these lamps is less than the savings in labor through the use of the simplified plan, then money can be saved by putting a simplified plan into operation.

Mercury Lamps

Mercury lamps, like fluorescent lamps, are being used more in industry. This lamp is also a highly efficient producer of light. The small size and high intensity of these lamps make it possible to obtain high lighting levels with a relatively small number of lighting units.

Mercury lamps are now available in a wide range of sizes and wattages. This enables the proper choice of lamps to be made to obtain the lighting level desired in a great variety of industrial areas.

Another new development is the reflectorized lamp, with the reflecting surface inside the bulb. This lamp is ideal for those locations where maintenance is a problem because the sealed-in reflecting surfaces do not deteriorate throughout the life of the lamp.

Both filament and mercury reflectorized lamps are available. Those designed for industrial applications are made with an R-52 bulb. The filament R-52 lamps come in 500 or 750-watt sizes, while both the mercury R-52 lamps are 400-watt lamps.

In the mercury lamps, an inside silvered or aluminized reflector bulb is used as an outer enclosure for the 400-watt arc tube. The H400-R1 is the unmodified mercury lamp with a silvered reflector. The H400-RC1 is the color improved type where the fluorescent powder is deposited on the reflecting surface. This phosphor con-

PROOF

SKLEEN

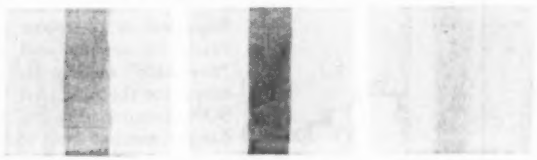
LIQUID DETERGENT FLOOR CLEANER

REALLY CLEANS

VESTAL proved it by the tests shown below. YOU can prove it by comparison tests on your floors . . . The cleaners selected for comparison with SKLEEN are good products—are nationally sold and distributed. For test purposes they were designated Cleaner A and Cleaner B.

Test panels shown above were all cut from one strip of white linoleum. Then, they were soiled . . . exactly the same weighed quantity of the same type soil was evenly applied to each panel.

THEN, THEY WERE SCRUBBED BY THE VESTAL DETERGENCY TESTER*



50 STROKES WITH CLEANER A | 50 STROKES WITH CLEANER B | 50 STROKES WITH SKLEEN

NOTICE THE DIFFERENCE BETWEEN THESE PANELS

SKLEEN is 17% more efficient than Cleaner A
SKLEEN is 30% more efficient than Cleaner B

* The Vestal Detergency Tester was developed by Vestal to aid its search for superior products. Basically it scrubs a test panel by means of a standard brush under standard weight propelled by a standard driving mechanism. The percentage efficiency of a detergent is determined by measuring light reflectivity of the panel before and after scrubbing.

*A complete description of the Vestal Detergency Tester is contained in the June 1951 issue of the Journal of American Oil Chemists Society, page 267.

Vestal

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VESTAL, INC., 4963 Manchester, St. Louis 10, Mo. Dept. S

☐ Have your Vestal representative demonstrate SKLEEN for me.

☐ Send a free copy of report containing results of scientific tests on SKLEEN'S performance.

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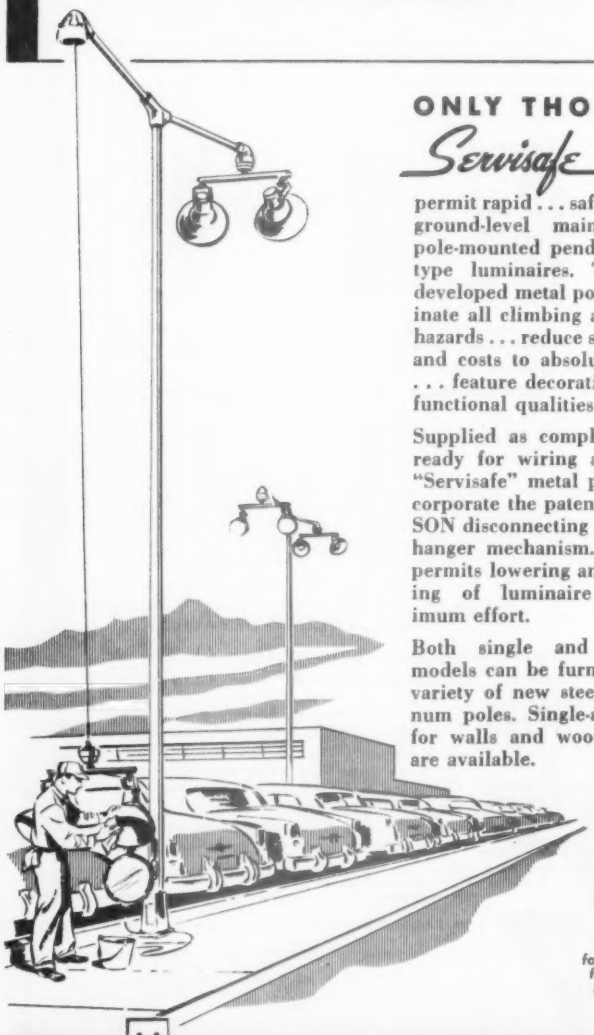
NEW METAL POLE UNITS PROVIDE GREATER ECONOMY, EFFICIENCY AND SAFETY FOR OUTDOOR LIGHTING SYSTEMS



ONLY THOMPSON *Servisafe* UNITS

permit rapid . . . safe . . . efficient ground-level maintenance for pole-mounted pendant or flood-type luminaires. These newly developed metal pole units eliminate all climbing and electrical hazards . . . reduce servicing time and costs to absolute minimum . . . feature decorative as well as functional qualities.

Supplied as complete packages ready for wiring and erecting, "Servisafe" metal pole units incorporate the patented THOMPSON disconnecting and lowering hanger mechanism. This device permits lowering and repositioning of luminaire with minimum effort.

Both single and double-arm models can be furnished with a variety of new steel and aluminum poles. Single-arm brackets for walls and wood poles also are available.

Write Today for Catalog PB-53 for Details and Specifications.

1764-TE

THE THOMPSON ELECTRIC CO.

1199 POWER AVENUE • CLEVELAND 14, OHIO

verts the ultraviolet radiation into light to fill in the red portion of the spectrum not present from mercury radiation alone.

The resultant color of the light is approximately the same as when equal wattage of mercury and filament lamps are combined. Under color improved lamps, red objects appear red instead of black or dark brown as under unmodified mercury lamps.

Mercury, unlike filament lamps, require five to eight minutes to restart after a power interruption, even of a fraction of a second duration. Under these circumstances, the plant would be in complete darkness, causing a safety hazard, unless some other illumination is available. One way of providing this illumination is to install a combination mercury-filament system.

As a result of the industrial lighting revolution and the increased use of fluorescent, mercury, and reflectorized lamps in industry, the way is being paved for higher quantity and quality industrial lighting systems. A direct companion to this improved lighting is the increased safety that can be expected.

It is the purpose of the lighting industry to improve the lighting and to develop new light sources for industry so that these areas will have a comfortable environment in which to work and one conducive to accident prevention.

Surprise Visits Promote Better Housekeeping

USING the "surprise factor" usually associated with the unscheduled visits of bank examiners, The Monarch Machine Tool Company, Sidney, Ohio, has launched a good housekeeping drive to keep its recently enlarged plant in apple-pie order.

Even the general foremen from whose ranks the plant inspection teams are drawn each week aren't notified of their respective assignments until the very last moment.

All that is known "for sure" is that (1) two men compose each inspection team (one general foreman from each shift), (2) these teams visit and grade the plant's 19 major departments once a week, and (3) the winning "department-

of-the-week" is permitted to display a specially-designed emblem or plaque indicating its superior housekeeping.

A few of the things for which departments are graded each week are:

1. General cleanliness of machines and work places.
2. Platforms and pans straight and behind aisle markers.
3. Chains and ropes in places assigned to them.
4. Absence of scrap lumber, rejected parts, etc., in a department.
5. Scraps of paper and other waste deposited in proper containers.

How well each department measures up in these and similar particulars is determined by a grading system with the following ratings:

A. Excellent (Floors and machines in very good order.)
B. Good (Department in shape, but needs some improvement.)
C. Fair (An effort put forth, but not followed through. Several areas bad.)
D. Poor (Department in general needs cleaning. No concentrated effort.)
F. Very bad (No effort put forth).

Not Long Way to Safety

—From page 35

with the program. Our Special Safety Team went into plants, and held informal monthly conference with supervisors of all ranks. As the result, the vitality of safety was steadily diffused among them.

Targets:

In the beginning of the movement, we took up two problems to be stressed:

(a) Better plant housekeeping
(b) Making sure the identification of accident facts

At the start of the program, we asked Mr. Takeda, well-known safety veteran in Japan, to inspect our plants, who pointed out the vitality of the above items as the most important factors to our safety.

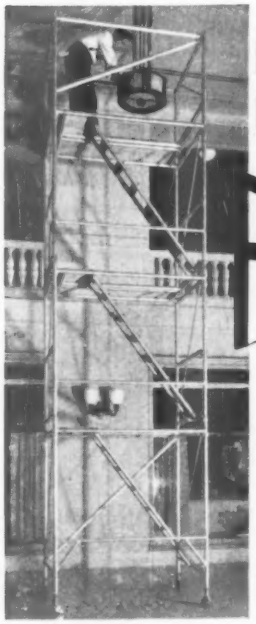
As days went on, the foremen and workers, who had not been quite convinced of safety, were gradually inclined to cooperate with us seeing that better housekeeping not only reduced accidents, but helped in no small degree make their tasks easy and efficient.

Likewise, as to the identification of accident facts, we made every effort to instruct first-line supervisors how to investigate and gather pertinent facts as the basis of accident prevention.

All Tools Used:

Besides, we used all tools available to promote program:

1. To stimulate interest:
   a) Contest among five plants with safety awards to the victors.
   b) Collection of safety posters and slogans.
   c) Periodical safety inspection and informal conference by the President and Safety Director with foremen and supervisors.
   d) Suggestion system about inventions, improvements and ideas of safety devices, instruments and so on.
2. Training and education:
   a) Foreman Training: Enforcement of three month foreman training course within plant. The trainees who completed the course were entitled as safety leaders respon-

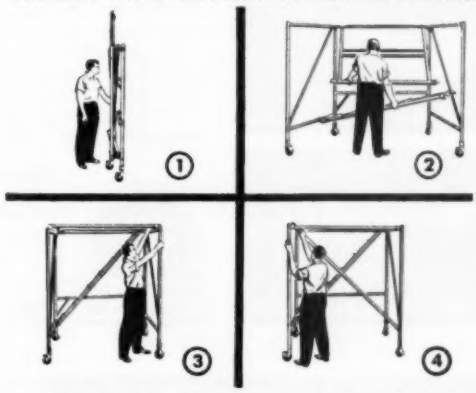


No Acrobatics!
No Flip-Flops!
with the
FOLD-A-WAY
TRADE MARK
SCAFFOLD
ALUMINUM

Underwriters' Laboratories approved

For Greater Safety... Efficiency... Economy
THE PATENT SCAFFOLDING CO. INC
38-21 12th Street | Dept. NSN Long Island City 1, N. Y.
6931 Stanford Ave., Los Angeles, Calif.
Branches in All Principal Cities

HERE'S WHY: For erection, the end frames of this new aluminum scaffold swing open sideways, as shown below. Maximum swing of any component is 90 degrees, so the erector is always *within* the base area. One man erects the base section in less than a minute.

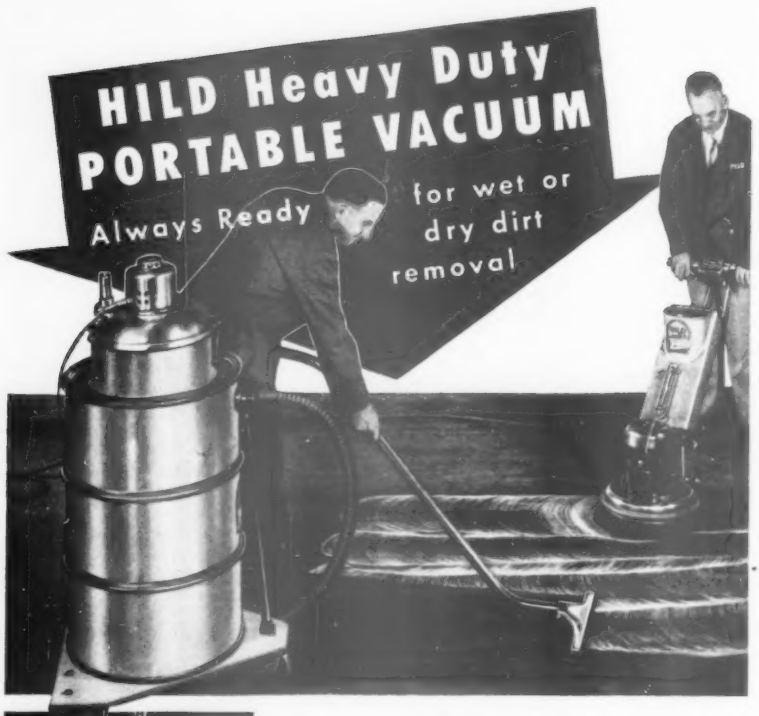


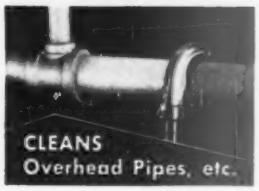
The FOLD-AWAY Aluminum Scaffold stands freely and will not "fold under" during erection. Superior construction features include coped and *full-welded* joints, adjustable legs with casters that lock at both wheel and swivel.

Write for illustrated Bulletin ASF-1

Aluminum Sectional Ladder Scaffolds

are extremely mobile. 24" width permits use in restricted areas. 6', 8' and 10' spans; ladders 4'3", 5'8" and 6'1" high, slip together easily for desired height. Underwriters' Laboratories approved. Write for Bulletin AS-2.





For scores of plant clean-up jobs the HILD vacuum is a real work-saver...a time-and-money-saver! Numerous attachments equip this unit to do all the jobs pictured here and many more...like cleaning stock bins, machine tools, castings, beams, ceilings, etc.

There are no adjustments to make...no filter to change when switching to wet pick-up work. Moisture in the vacuum air-stream cannot damage the special HILD Bi-Pass motor. Synthetic rubber vacuum hose and caster tires resist oil and grease. For easy portability the unit is mounted on a sturdy steel dolly with ball-bearing casters. The tank holds 40 gallons of recovered liquid. A 2-inch gate valve permits easy emptying into a drain or gutter.

HILD System
MAINTENANCE
EQUIPMENT & SUPPLIES

Demonstrated in Booth No. 1344
PLANT MAINTENANCE SHOW
HILD FLOOR MACHINE CO.
740 W. Washington Blvd.
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For Best Results
INSIST ON
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Heat Resistant
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For Protective Clothing

sible to the promotion and leading of safety in their respective positions. (The present result is considered to owe greatly to this training.)

b) Distribution of safety leaflets and texts to all workers.

c) Color conditioning applied to plant machinery and equipment.

Total cost saved by the improved safety in 1952 is estimated not less than one hundred million Yen or approximately three hundred thousand U.S. dollars.

In addition, three plants out of five marked one month—non-accident record, and four received the honor flags from Labor Minister to their 330,000 hour—non-accident records. While, three of them are now struggling to establish 900,000 hour mark.

The integrated efforts have not only yielded such a remarkable result, but countless advantages as shown under:

a) Diminished accidents on maintenance, such as losses and damages due to improper housekeeping and arrangement.

b) Decreased absenteeism and refreshed morale.

c) Better housekeeping and maintenance improved the plant outlook.

e) Advanced work efficiency, etc.

Conclusion

Comparing the after and ante movement periods, we cannot but feel deep gratitude at the fact that the number of accident deaths was reduced widely from 22 to 7 in one year. This is the most encouraging of all benefits the program has brought about.

There are, of course, many ways and means to promote safety. People who came to our plant to see how we have made such progress often ask us what was our way of plant housekeeping, or what are our safety devices, and so on.

To these questions, we are used to reply that, since the safety is an integral part of our entire business, there should be no difference in the way of its administration with other business, such as production, sales etc.

What is most essential is, in our belief, the enthusiasm and initiative on the part of top management. It will ensure almost any program of its ultimate success.

The way to safety has been well proved *not too far.*

Leaking Gas

(From page 69)

Safety Appliances Company, Pittsburgh, the portable device detects gas leaks in a variety of locations and under many conditions.

Although Public Service Company always has odorized its natural gas, leak detection used to be a problem. In previous years, before all service crews were equipped with the instruments, it was necessary to make "recheck" calls if a leak could not be identified or located by the ordinary means. This sometimes required that a supervisor, or another crew, with a gas-detecting instrument return to the scene and make a test. Return calls might take two or more hours. Servicemen now can locate a leak, if any, on their first trip, obviating the hazard of delays.

The instrument can be used to probe for leaks in confined areas not otherwise accessible. One example is between partition walls. The instruments also have picked up gas readings along baseboards where it was impossible to find them by smelling.

A connection near a gas appliance may be the source of the leak.

Leaking gas could channel through and into a floor drain in the basement.

In another case, gas leaked into an attic and insulating material scrubbed out the odorant. Two or three servicemen, using their noses, could not locate the leak, but a portable meter did find it. The detectors can also be used to discriminate between natural gas and certain other hydrocarbon vapors, such as gasoline, oil vapors, butane, propane, etc.

Although no special technique is required to operate the meter, the gas firm conducted training classes for all personnel engaged in service work to educate them in the use of the equipment. In the classes, demonstrations were held to show how the detectors can find gas even in the unusual cases where no odor is present.

Maintenance of the instruments is as simple as servicing a flashlight. Ordinary flashlight batteries which power them can be replaced quickly. The detector filaments are designed for several thousand tests but when changing is necessary, the operation is as easy as changing a flashlight bulb.

To operate the meter, the serviceman turns a rheostat switch which simultaneously energizes the circuit and establishes a "zero" adjustment on the dial. Then he squeezes an aspirator bulb to draw an atmospheric sample into the instrument and over a heated catalytic filament that forms part of a balanced electrical circuit. Combustibles present in the sample are burned on the filament and unbalance the circuit in direct proportion to the concentration of combustible gas or vapor. The operator then can read on the dial the concentration of combustibles in the sample.

Award Medals for Fire Safety Service

The National Board of Fire Underwriters this week invited the nation's press (daily *and* weekly), radio *and* television to participate in its annual Gold Medal Awards for outstanding public service in fire prevention and fire safety.

The awards, or their equivalent total of $2,000 in cash—$500 in each of four classifications—last year were won by *The Commercial Appeal* of Memphis, Tenn., the *Oxford (Ohio) Press*, Radio Station KANS of Wichita, and Television Station WBZ-TV of Boston.

In addition to the Gold Medal Awards, the National Board presents a number of Honor Award citations.

Closing date for entering the 1953 Gold Medal Awards is February 15, 1954, which leaves about 12 weeks in which to prepare scrap-books of clippings, letters, photographs, recordings or other material relating to 1953 fire safety and fire prevention activities.

The National Board explains that the material should demonstrate the worthiness of the community's fire prevention activities, particularly their performance and effectiveness. Scrap-books will be judged by nationally-known representatives in the medium's classification.

Everybody is ignorant, only on different subjects.—Will Rogers.

For a Successful Poster Program

JUMBO POSTER FOR FEBRUARY, 1954

The Jumbo poster, issued monthly, is designed for outdoor use and is available to members on annual subscription but is not stocked. Its actual size is 9' 11" by 11' 8".

NATIONAL SAFETY COUNCIL

T-0053-B 17x23

This new four color poster is illustrative of the 72 four color posters shown in the 1954 Poster Directory.

REFLECTION OF A CHANCE TAKER

NATIONAL SAFETY COUNCIL

0102-C 25x38

Above new "C" poster, issued monthly, is indicative of the other two color posters—shown in one color on the following pages and in the 1954 Poster Directory.

NEW EDITION!

THE 1954 Directory of Occupational Safety Posters has been mailed to all National Safety Council industrial and transportation members. ***It contains miniatures of 744 posters—top-notch selections on a great variety of subjects.*** Additional copies are available at 50 cents each —write to Membership Dept., National Safety Council.

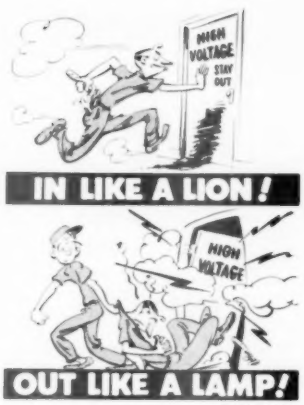
Posters miniatured on this and the following pages are NEW —produced and shown for the first time. Excepting the Jumbo poster (left, upper), all will be in stock throughout 1954. Those posters shown in one color on the following two pages are actually printed in two or more colors.

For a more successful poster program: first make your selections from the brand new posters shown on these pages ***and then*** from the hundreds of illustrations in the 1954 Directory.

Electrotypes of poster miniatures on this page are not available, nor can payroll inserts be supplied.

Posters below are printed in two or more colors

(Available only in sizes indicated)



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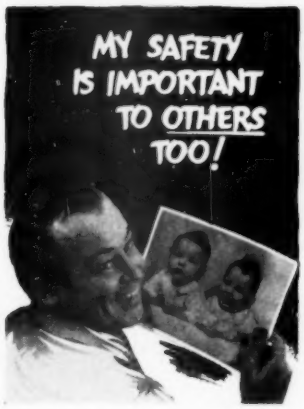

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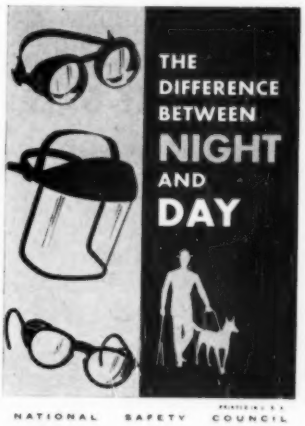

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0080-A 8½x11½

0017-A 8½x11½

Electrotypes of payroll inserts can be furnished in all poster illustrations showed above.

Posters below are printed in two or more colors

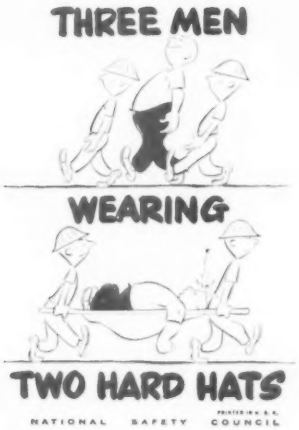
(Available only in sizes indicated)

NATIONAL SAFETY COUNCIL

0078-B 17x23

NATIONAL SAFETY COUNCIL

0036-B 17x23



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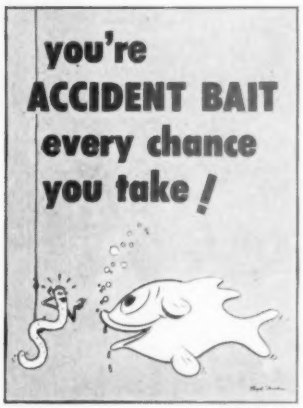

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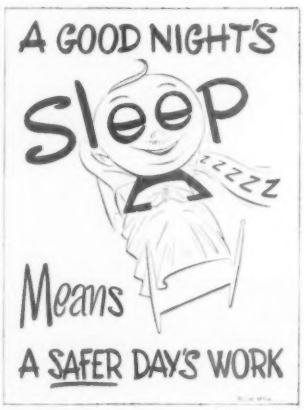

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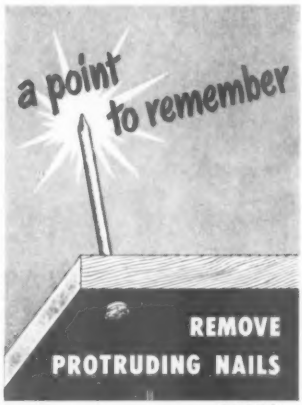

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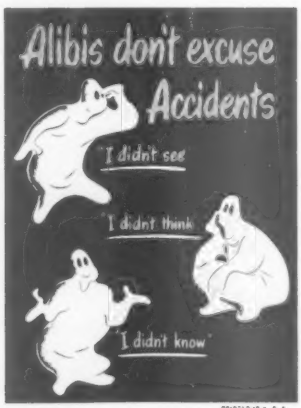

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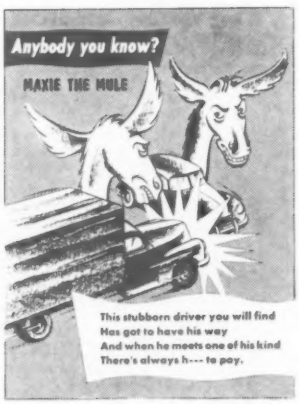
Anybody you know?
MAXIE THE MULE
This stubborn driver you will find
Has got to have his way
And when he meets one of his kind
There's always h--- to pay.

NATIONAL SAFETY COUNCIL

V-0091-A 8½x11½

Electrotypes of payroll inserts can be furnished in all poster illustrations showed above.

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Welded and Weldless Chain, Chain Assemblies, Slings and Fittings for Every Purpose

Before coming to America 84 years ago, the *Round* Family had been one of England's leading chain-making families for nearly 200 years. The name *Round* was on every piece of chain they built—and was a name that meant the *finest* chain.

In America, the Rounds continued to build chain in their same craftsman way. Soon the name *Round* became the standard for quality chain in *this* country.

In those early days, chain was built by hand. Now, most types are built by automatic machines. Though the present *Round* Organization has changed to new, modern methods of making chain, the *Round* policy of building quality chain has not changed.

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Round BRIDGEPORT CHAIN & MFG. CO., Bridgeport 1, Conn. • *Round* CALIFORNIA CHAIN CO., So. San Francisco, Calif.
Round LOS ANGELES CHAIN CORP., Los Angeles 58, Calif. • *Round* WOODHOUSE CHAIN & MFG. CO., Trenton 7, N. J.
THE *Round* CHAIN & MFG. CO., Chicago 38, Ill. • THE SOUTHERN CHAIN & MFG. CO., Birmingham 4, Ala.
OHIO HOIST & MFG. CO., Cleveland 5, Ohio • *Round* CHAIN CO. OF CANADA, Brampton, Ont.
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All of this background is at the disposal of you, our customers.

Seizing the initiative in providing better safety to industry, we have analyzed hundreds of industrial chemicals and the jobs on which they are used. Our laboratory and design staff has gone to work to provide protective garments patterned to meet these specific hazards.

This too, we offer you . . . special garments for special problems.

A letter on your problem to one of the branch offices listed below will bring information backed by over 30 years of experience in working with industry's most exacting requirements.

It is this experience and know-how we offer you . . .

STANDARD SAFETY EQUIPMENT COMPANY
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NEWARK 4, N. J. 597 BROADWAY
CLEVELAND 10, OHIO 855 EAST 152nd ST.
LOS ANGELES 16, CAL. 2952 CRENSHAW BLVD.

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For over 30 years, HALCO First Aid Kits have been used by Industrial Plants, Government and Civil Defense agencies, Fire Departments, etc. There's a HALCO Kit that's perfect for your needs. Write today for our FREE catalog.

A. E. Halperin Co., Inc.
Boston 18, Mass.

Pressed Metal Institute Announces Spring Meeting

THE 1954 Annual Spring Technical Meeting of the Pressed Metal Institute will take place at the Hotel Carter in Cleveland, Ohio, March 17 through 19.

Subjects to be discussed during the technical sessions on March 18 and 19 include: "In Process Material Handling" and "Resistance Welding." Those in attendance will also have an opportunity to visit three prominent plants in the Cleveland area.

Safety in a Stamping Plant will be the theme of the first day's meeting. The 1953 Technical Meeting inaugurated the safety program and its success has encouraged PMI's Technical Research and Standards Committee to annually expand the meeting to a three-day session with the first day dedicated to accident reduction in the industry.

Rheumatic Diseases Cause Heavy Time Loss

AMERICAN INDUSTRY is losing approximately 10,500,000 work days annually because of rheumatic diseases, William S. Richardson, executive vice president of The B. F. Goodrich Company, told the Ohio and Western Pennsylvania regional meeting of The American Rheumatism Association in Akron, Ohio, recently.

Deploring this tragic loss of manpower, Mr. Richardson declared that the cost of poor health, in terms of illness and injuries, is incalculable to both employee and employer.

"Industry," he said, "stands ready to cooperate with the medical profession in not only improving working conditions as they manifest themselves, but industrial research will continue to be a fountain of new knowledge upon which the medical profession can draw to assure continued progress in improving the health of our people."

The speaker said that the expected increase in the nation's population, which will add some 22,000,000 people by 1963, poses a challenge for both industry and the medical profession.

Fire Protection

—From page 31

cumstances affecting the initiation and spread of fire or the formation of explosive conditions is necessary for a more complete understanding of the importance of prompt detection and control of fire and prevention of explosion. Every worthwhile fire safety program demands concurrent development of a state of prevention-mindedness and fire-protection readiness. To this end, it may be added that a substantial reduction of fire potential can be secured in any industrial operation by careful scrutiny of the "danger spots." Regularly scheduled inspections and the prompt correction of any improper and unsafe operations or fire vulnerable situations help achieve the reduction. Also, the establishment of a good fire-control emergency plan in terms of properly equipped and action-trained manpower will tend to insure a maximum degree of freedom from fire and explosion losses.

To keep pace with technological advances in industry, our usual preventive measures and protective safeguards will have to be augmented or improved upon. Greater alertness to new hazards and increased attention to the growing dimensions of the more common hazards are prime essentials of progressive fire safety planning. Every attempt should be made to provide, as far as possible, the necessary preventive and protective engineering at the blueprint stages to minimize and control the danger potentials. Special training should also be provided for situations presenting unusually high hazards. The misconception that so-called fire fighting merely involves rolling out a length of hose, turning a hydrant and pouring water on a fire must also be corrected. Fire control and extinguishment is gradually developing from an art of firemanship to a highly specialized technical profession. This requires rather broad mechanical, electrical, and chemical knowledge and the skill of a variety of manual techniques and detailed familiarity with a wide range of automatic detection and specialized control and extinguishing systems. Fire emergency calls

SOAP DISPENSER
SPRAYHEAD
SELF-FLUSHING BOWL
No collection of contaminated water for maximum sanitation. Maintenance requires cleaning of only one sprayhead and bowl instead of twenty faucets and 10 hard-to-clean basins.
FOOT-CONTROL
Hands touch only clean spray of water—no contagious faucet or basin contacts!

FOR PERFECT SANITATION, GREATER ECONOMY, EASIER MAINTENANCE—

BRADLEY washfountains

Each 54" Bradley serves 8 to 10 persons with a spray of clean, tempered running water. Foot-control prevents water waste. One set of piping connections replaces 8 to 10 sets needed for single-person basins.

Bradleys provide matchless sanitation by eliminating contagious faucet and wash-basin contacts. A touch of the foot turns on water supply, leaving hands free to wash in the clean spray of running tempered water. Up to ten persons can wash simultaneously at a 54" Bradley Washfountain.

Bradleys save space, conserve water, and reduce piping connections by 80%. Bowl is self-flushing to prevent collection of dirty water. Cleaning is quick, easy. Sprayhead has no moving parts to require attention. Bradley Washfountains are available in precast stone, *enameled iron* and *stainless steel.*

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Distributed through Plumbing Wholesalers.

New Catalog 5204 mailed on request

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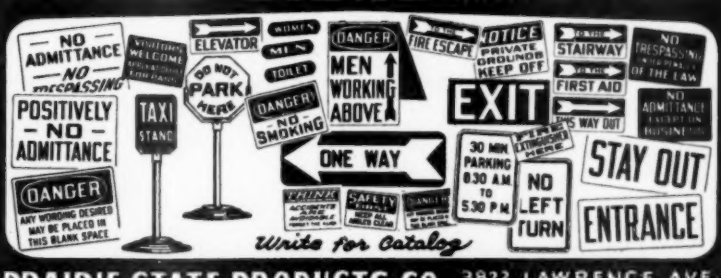
STANDARD REGULATION SIGNS OF ALL KINDS FOR SAFETY AND EFFICIENCY



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quick, thorough, painless first aid for burns

When there is a burn—*SPRAY IT!* It is safe, fast, causes less pain, minimizes shock, and reduces greatly the chances of infection. The wide MSco assortment of Burn Spray First Aid Kits is designed to meet every problem and condition. You have a choice of standard burn first aid solutions which are familiar to the medical profession—Americaine, Foille Emulsion, Hydrosulphosol®, Kip Antiseptic Oil. These are only a few of the many available to you. If your medical director has a preference for another burn first aid solution which can be sprayed, we will conduct the necessary tests free of cost. Write today for complete descriptive folder and details.

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for quick and decisive action, requiring experienced judgment and a high degree of mind and body coordination, plus sound logic to cope with unpredictable situations.

In present-day advancement of fire extinguishing efficiency, all improvements of any importance have been principally in the techniques of control and application, rather than through new extinguishing media. Cooling and smothering continue as basic principles for the suppression of combustion and extinction of flame. In special instances, various mechanical means have been developed for restriction of fire fuel by quick withdrawal or safe removal of process liquids and gases from the burning area. Another extremely special technique of literally "blowing out" fires has been employed on a limited basis in combatting uncontrollable oil well fires by blasting with explosives.

It may be of interest to point out that all extinguishing media in major use today, such as vaporizing liquids or halogenated hydrocarbons (mainly carbon tetrachloride), carbon dioxide, dry powder, and foam have been in existence and in varying degree of use for almost 50 years. Carbon tetrachloride was first used in this field about 40 years ago. Portable carbon dioxide units first appeared on the market about 10 years later and found wider acceptance in the late 1930's. Dry powder and foam also had their beginning in the 1900-1925 era—the wider use of dry chemicals has grown rather rapidly in the last eight years. There has been little change in the foam principle, although the development of various foam formulations has been quite extensive.

Although types and capacities of the extinguishing services provided by these agents have been adopted for various specified uses, important changes have taken place in the more recent years in the direction of larger-sized portable units, with improved mobility and versatility of operation. There has also been extension to fixed systems, automatically actuated, to protect various processing equipment presenting special hazards.

Perhaps the most outstanding of the major new developments

involves the varied and improved application of water. By virtue of its economic abundance, available force, range of projection, and favorable thermal properties, water is regarded as the best general extinguishing medium. It has no equal for controlling large fires. Because of its versatility, water can be applied in many diverse ways. When provided with suitable facilities in terms of mechanical equipment and suitable layout, it may be possible to control or extinguish any type of fire. By conditioning with chemical additives, water may yet approach a perfect extinguishing medium.

The remarkable record of conventional automatic sprinklers is well known in fire protection circles. A new automatic spray sprinkler now provides, with better atomization and distribution pattern, quicker control of fires, greater protection of ceiling areas, with reduced water requirements and less water damage. Fine sprays and water curtains are being utilized to encompass hazardous areas and restrain the lateral spread of vapors and transmission of fire by radiation and convection to adjacent surroundings. To minimize fire involvement and prevent structural collapse, fixed sprays and waterfog systems are also being installed around reaction vessels, fractionating towers, and around columns and supporting beams of open steel construction in critical process areas in chemical and petroleum refining operations. The use of fog nozzles on hose lines by fire departments has resulted in a greatly increased efficiency over the ordinary solid streams in certain types of fires.

The higher rate of heat transfer and faster cooling provided by dispersed water fog is currently stimulating a keen interest in an extinguishing technique for interior fires, known as "indirect application of fog."

Another technique finding increasing use in manual fire control operations involves the addition of "wetting agents" to water. These additives enhance the penetrating and spreading qualities of water (by virtue of the lowered surface tension). This is reported to be quite effective in the wetting and

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clean goggles faster—better—safer!

Why let your employees take chances with dirty, scratchy cloths—used over and over again? Kimwipes industrial wiping tissues clean goggles and face shields far better because they're used only once, yet are no more expensive to use.

These clean, soft, absorbent tissues are 100% free of abrasive matter. Absorb up to 8 times their own weight in liquids. And Kimwipes are dispensed in handy "one at a time" packages that can be located at several spots in your plant.

You'll find dozens of other uses, too, from wiping up spilled liquids to precision polishing and inspection wiping. Try a few boxes soon and see if you haven't found the all-purpose wiping material you've always needed.

Two tissue sizes, 15" x 18" and 5" x 9". For information, write to Kimberly-Clark Corporation, Neenah, Wisconsin.

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CORK BULLETIN BOARDS

The bulletin board that lasts and lasts

Insist on Dav-Son genuine self-sealing cork—tack holes disappear. Natural finish hardwood frames with mitered, glued corners add to long life of Dav-Son bulletin boards. Sizes from 12x18 and larger, with or without locking glass doors. $4.15 up. Also with metal frames for inside or outside use.

Dav-Son Safety Director with color, light, motion, easy changeable letters for up-to-minute messages, peak attention. **$39.75,** letters incl.

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Dealer Inquiries Invited.

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PERSONAL AS YOUR TOOTHBRUSH!

Kill ATHLETE'S FOOT Fungus with Individual Foot Treatment

- NO DILUTION
- NO CONTAMINATION
- NO RE-USED SOLUTION

1. Step On
2. Mark Time That's all!
3. Step Off

You can use the SANI-MISTER Spray Dispenser in your plant's shower rooms with complete confidence in its protection against Athlete's Foot!

The SANI-MIST method gives you a fresh, full-strength treatment every time. Every application is as personal and as sterile as a morning mouth wash!

According to laboratory tests, SANI-MIST solution kills Trichophyton mentagrophytes, the principal fungi causing Athlete's Foot, in less than 30 seconds. The SANI-MIST method is economical, too. Costs only a few cents a day. For complete details write today.

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...make gloves last
3 to 5 times LONGER!

BEFORE

How Much Will This Reduce Your Yearly GLOVE Cost?

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LEATHER
RUBBER OR COTTON

THIS IS WHAT "WASH-RITE" DOES...

Throw *all* your dirty, worn leather, rubber or cotton gloves in our steel drum. Ship to us. We correctly clean, sterilize, *COMPLETELY REPAIR*, sort, reshape, pair and ship them back to you as serviceable as new. Depending upon the gloves and their usage, gloves are being re-claimed by us 3 to 5 times. We specialize only in laboratory controlled re-claiming of rubber, leather and cotton gloves, aprons and clothing. *Write for literature.*

10 Years of Proven Service

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cooling of water repellent surfaces and in extinguishing deep-seated fires commonly encountered in fibrous materials. Other similar additives have recently been introduced to promote emulsification and froth formation or foam blanketing with water sprays and immiscible combustible liquids.

Most of our other developments in fire extinguishment combine the various advantages of different systems into a fixed high-capacity installation for large-scale protection, coupled with automatic controls. One such new arrangement permits the injection of a foam liquid into a spray sprinkler system to provide a snowstorm-like discharge of finely subdivided foam. Similar applications are being developed with dry chemical media for the combat of fires arising from the use of molten salts and liquid metals employed as industrial heat transfer media.

An example of the extreme extent of new developments in this field is indicated by a unique fire control method for oil tank fires. This process employs the principle of agitation to restrict the release of vapors from hot upper strata of stored liquids by movement of the cooler liquid from the depths of a container to the surface. This tends to diminish vaporization to either completely extinguish the fire or reduce the intensity or rate of burning to a level which permits easier extinguishment by other conventional cooling and smothering methods.

The fundamental concept that small fires are easiest to control is perhaps responsible for the accelerated interest in automatic detection and control and the rapid progress that is developing in this particular field. In recent years, automatic detection, reporting and control of fires has progressed far beyond the stage of a few crude bells and thermostats. The newer developments reflect a scientific art. They include various principles of chemistry and physics to provide prompt detection through thermal expansion of solids, liquids, and gases, vaporization of liquids, ionization and microanalysis of gases, change resistance of conductors. These include thermoelectric effects of thermocouples

and photoelectric flame and smoke detection. A wide variety of instruments are currently available to provide automatic and continuously supervised fire and explosion safeguards for all hazardous situations in different industrial operations. Some of the systems are arranged with interlocks to effect multiple action, such as shutting-down fans and motors, slamming doors and windows to provide prompt isolation and keep fires and smoke from spreading, in addition to actuating alarms and extinguishing devices. It may be anticipated that modern electronic developments in radar, television and in our industrial production will insure greater operating safety in the expanding field of automatic fire control.

It should be readily apparent that there are sufficient techniques available to provide adequate safeguards for practically any existing hazardous operation. It is not so much a problem of developing new fire safety procedures and extinguishing media as it is a problem of better utilization of the measures and accepted controls already in existence. Deficiencies in fire prevention and fire protection, even if of a seemingly minor nature, can create potentially dangerous hazards and endanger operating personnel, equipment and their housing structures. An inseparable part of this task is education to develop a fuller appreciation of the scope of the hazards, means to avoid and control them, and the necessity for complete adherence to established safe practices and preventive maintenance programs. The success of such an undertaking ultimately must reside in the competence and diligence of the safety and fire protection engineers, and in turn on continuing support by plant management. These specialists must also assume primary responsibility of alerting management on fire vulnerability and consequent loss potentials. They must also convince them of the serious need for expending time and money on proper organizational effort and eventual compliance with recog-

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WELDED STEEL SAFETY LADDERS
For Filing Rooms—Stock Rooms—Vaults

SAFE
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STRONG
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EASY TO MOVE
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45"—5 Step

New improved design now being made from 1" diam. round furniture tubing.

Mounted on Swivel Brake Casters which allow the ladder to be rolled freely when no one is on it. When you step on the ladder the rubber cushioned legs rest on the floor and prevent rolling.

Made in 7 heights: — 18" 2 Step, 27" 3 Step, 36" 4 Step, 45" 5 Step, 54" 6 Step, 63" 7 Step, 72" 8 Step.

All are made in 18", 20" or 26" width. Send for Circular No. 53-N and prices on these ladders and our full line of Wood Rolling Ladders.

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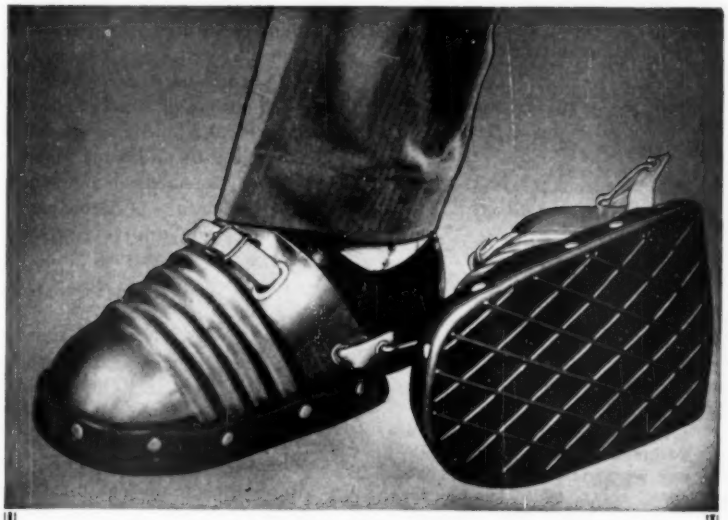

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"SANKEY" FOOT GUARDS consist essentially of a metal shield to be worn over the shoe whenever the foot is in danger of being either crushed or cut. The metal shield is designed to furnish a maximum amount of protection to the entire front of the foot—not merely the toes alone, but also to the instep against hazards from falling, rolling or flying objects, or from accidental tool blows. Write for literature or a trial pair.

Right — IMPROVED FOOT GUARD fitted with Anti Skid Toe Clip.

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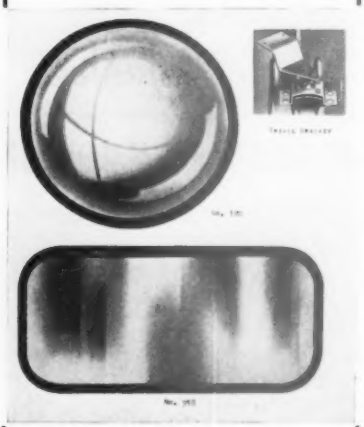
RISK A TRAFFIC ACCIDENT IN YOUR PLANT
Because of Blind Corners



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Safety Mirrors for Industrial Use

- **Klear-Vu Safety Mirrors are designed for use in factories and warehouses where blind corners, cross aisle intersections, entrances and exits present a safety problem because of traffic accidents.**
- **Mounted at a height of 8 to 10 feet, Klear-Vu Safety Mirrors clearly reflect the movement of oncoming floor traffic from opposite direction—thereby removing principal cause for collisions.**
- **Mirrors are easily installed and adjustable for any desired angle. They are also adaptable for outdoor use.**

Style	No.	Dimensions
Circular Convex Glass	120	12" Dia.
Circular Convex Glass	180	18" Dia.
Circular Convex Glass	240	24" Dia.
Flat Glass Rectangular	918	9" x 18"
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Lester L. Brossard Co.
540 N. Michigan Ave.
Chicago 11, Ill.

nized fire prevention standards.

Two final points in closing. First, there is a need for more long-range planning to meet the trend toward structural "bigness" and increased concentration of values to be safeguarded in such occupancies. Secondly, some advance thought must also be given to the problem of maintenance of industrial production under conditions of direct military action. Both of these considerations seriously increase dimensions of industrial fire and explosion safety problems. It should be realized that the trend toward decentralization or dispersion of our industry and demands for expansion acreage for future developments is gradually shifting some industries to rural areas lacking the required fire fighting equipment and having inadequate water supplies. On the other hand, flow modernization and flexibility of layout and machine arrangement demanded by mass production operations is calling for expandability in terms of large undivided areas and economic engineering design and light construction.

It must be recognized that the possibility of fires and explosions are never remote. Their element of suddenness makes imperative a constant development in our safety technology and a continuously sustained prevention and protection program. These will provide the only answer to this challenge.

Using Electronics

—From page 60

In the past few years electronic equipment combined with magnaflux powder has been used to forestall accidents. A periodic inspection of crane hooks has in many cases revealed cracks which would have resulted in failure of the crane hook and possible injury or loss of life. A crane hook to the naked eye may appear perfectly sound but when dusted with magnetic powder in a magnetic field, the powder collects around the crack making it readily visible to the inspector.

Some mills inspect not only the crane hooks but also the chain or cable attachments of the crane itself and also the crane ways. A discovery of cracks in any of these parts may avert serious accidents. The crane hook in Figure 2 is of particular interest because the crack was in what was thought to be a repaired area. Visual inspection of the crane hook had revealed cracks which were repaired by welding. The hook was approved by visual inspection but taken into the laboratory for magnetic powder inspection. The additional cracks visible in the photograph were discovered.

Electronic devices have also been used to advantage in inspection of racks used for storing bars and tubing. Storage of bars, tubes, pipes and other heavy metal shapes in warehouses presents sufficient difficulties so that considerable ingenuity has gone into the design and construction of storage racks. Because of the nature of the business these storage racks are frequently roughly handled and overloaded. In our Cleveland plant we use a loading rack of our own design for stacking heavy gage tubing. Several can be seen in Figure 3. A pair of them,

Award Emblems

SERVICE

Recognize your veteran employees—increase loyalty—reduce labor turnover. Show your appreciation for years of loyal service with a Metal Arts Service Award Emblem.

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Fewer Accidents mean more manpower, less lost time. Encourage safety with our Safety Emblems. Emblems can be applied to tie clasps, money clips, lighters, etc.

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Start a Quota Club and watch your sales increase. Your salesmen will be proud to earn the right to wear an emblem with your company name.

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Augment your cash award with a distinctive emblem. Promote competition among your workers. Increase labor, material and method savings.

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carrying a load of tubing, is picked up and placed on top of another pair. Several loads may be piled on top of each other. The hazard of possible failure was recognized and given thorough consideration by the engineering department. Unfortunately, racks are sometimes mishandled and subjected to abuse far exceeding the normal loads carried in the racks. As a result, one of the racks failed and the load of tubing fell to the floor. A workman nearby suffered a badly crushed foot. While this was a major accident, it was relatively minor compared to what could have happened if one or more men had been buried underneath the load.

Because of this experience our electronic non-destructive test men investigated the problem immediately. All of the storage racks, many of which had been in service for 10 to 20 hours, were checked for cracks by both the magnetic powder method and the liquid "Spotcheck." All welded joints or corners were inspected by this method. Many of them were found to be cracked in critically stressed areas. They have been removed from service and, based upon knowledge obtained by electronic non-destructive test, the design has been changed to reduce the probability of cracking.

A unique instrument which has not yet been put on the market but which will ultimately become a vital factor in electronic non-destructive testing is the seam depth indicator. The seam depth indicator was developed by Republic Steel Corp. for the purpose of determining the depth of a crack in a metal object. While many instruments on the market are capable of indicating the presence of a crack none of them can indicate how far the crack extends into the base metal. The seam depth indicator does just that. Because of that ability it can differentiate between what might be in effect, simply a surface scratch and a serious defect.

An opportunity to demonstrate the usefulness of this characteristic occurred in the Youngstown plant of Republic Steel Corp. A high pressure steam boiler header had been condemned by the boiler inspector because he had observed cracks in the 1½-inch plate from which the header was made. The cracks however, were tightly closed and as mentioned above it is impossible for any observer to tell the depth of such cracks.

On the basis of this argument the boiler inspector was persuaded to observe the use of the seam depth indicator. The instrument revealed that the cracks were extremely shallow, varying between .005 and .010 inch. Grinding out some of the cracks and measuring the depth by a depth micrometer confirmed the indications of the instrument. When sufficient cracks had been ground to convince the inspector of the accuracy of the instrument, he approved the boiler on the basis of the instrument's performance. The seam depth indicator is illustrated in Figure 4.

The above experience illustrates a facet of the safety engineer's work that must not be overlooked. Indispensable items for his tool

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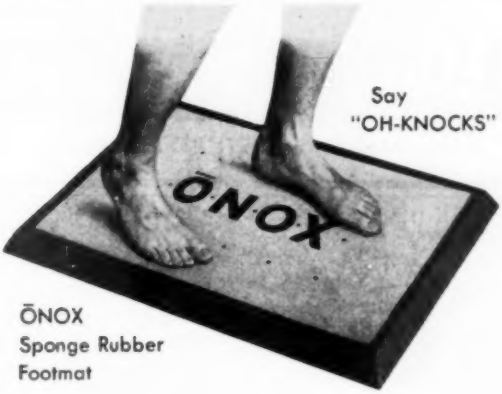

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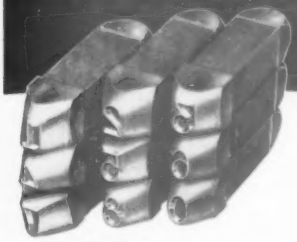

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kit are instruments which will convince him or other interested parties that equipment is satisfactory for its intended purpose in spite of apparent defects or shortcomings.

Another use of the seam depth indicator which indirectly has an important bearing on safety is pipe coupling inspection. Steel pipe manufacturers usually sell couplings with the pipe. The pipe is subjected to a high pressure internal hydrostatic test. The couplings are usually not tested but the manufacturer of the pipe is just as responsible for the couplings as he is for the pipe.

Demands for tests of the coupling have been steadily increasing and the manufacturer is faced with the possibility of having to test the coupling hydrostatically. This would be an expensive and potentially dangerous operation. During the past few years the Youngstown plant has been using the seam depth indicator to determine the depths of seams and has found it entirely satisfactory. This method has the safety feature of eliminating the potentially dangerous high pressure hydrostatic test of short pieces.

Another electronic test that is rapidly coming into its own is the determination of the wall thickness of tubes and pipes by ultrasonic devices. Three such devices are on the market—the sonizon, the audigage and the reflectogage. The audigage is illustrated in Figure 5. While I have had experience with several instances of the use of this instrument, one in particular may be of special interest.

A gas line 30 inches in diameter and ½ mile long was tested throughout its length at several hundred different points. To have run the same test by drilling, the only competitive means for determining wall thickness, would have been prohibitively expensive. In the case of tanks that are filled with liquid drilling would be impractical. Determination of such critical thicknesses is valuable to both the maintenance superintendent and the safety supervisor. As a matter of fact, all of the experiences with which I have had contact have been prompted by the maintenance man rather than

by the safety supervisor. In this case, the safety supervisor can use the indirect method of achieving his objective by pointing out to the maintenance superintendent the saving to be derived from such knowledge. He can at the same time raise the safety level of the operation.

Among the electronic devices whose safety significance has not yet been widely recognized are special telephones to operate between moving vehicles of all kinds.

Efficiency in communication can save lives. A miner far underground was cut badly and apparently bleeding to death. Fortunately, a train was nearby and the motorman saw him. But even that circumstance would not have saved his life if the motorman had not had a telephone on his locomotive. They were on a branch of the main line. Another train was about to enter a three-mile section between the junction and the shaft elevator. If it did it would have to clear the junction before the train bearing the injured man could start back to the shaft. The motorman would have to follow the prescribed routine for clearing the track. The victim would have to wait for the elevator. On arrival at the surface, more waiting would be endured while getting a doctor and ambulance. All of this could entail one-half hour to an hour in which time the patient would possibly have died.

Contrast with that, the actual performance. The motorman in train A advised all motormen and the dispatcher of the accident. Train B did not start. The motorman on train B notified the driver of a nearby jeep who immediately went to the shaft and got the elevator down ready to receive the victim. The dispatcher got the doctor and ambulance to the portal. The patient was in the doctor's care ten minutes after the motorman on train A saw him.

In another case, a man caught his glove in the mechanism of the last car of a moving train. He was being dragged along and surely would have been killed if a motorman on a siding had not seen him. The motorman would have been helpless without a telephone on his locomotive. He immediately phoned the other motorman who stopped the train and released the man with a few scratches and bruises.

Some modern electronic equipment being introduced into industrial operations requires special attention to make sure that the electronic equipment itself is not harmful to the operator or to the men working in its vicinity. In this category are instruments using x-rays and radioactive isotopes. In the majority of cases the tendency is to overestimate the hazard associated with the use of these devices but in some cases the stray radiation is great enough that special precautions must be taken. In any event, it is the function of the safety engineer to make sure that a reliable authority on the subject has made a thorough survey to determine the possible extent of radioactivity.

At Republic Steel Corp. our practice has been to retain an authority on radioactivity to make a complete survey of the vicinity of the installation. He then explains to the supervisors and men who are likely to be in the area what is involved in exposure to

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radioactivity and the extent of hazard. If the hazard is appreciable it is desirable to have the usual warning signals, fences with gage-controlled signal lights and similar devices to warn people that they are in a hazardous area.

While present and potential uses of electronic devices are extensive, the electronic method should be used only if other methods are not available or if other methods have failed. In our experience, the number of problems that can be solved by electronic devices and electronic devices only, is large enough to make electronics an important tool in our operation. However, the glamor surrounding electronic work is so fascinating that some people use electronic devices when simpler methods will accomplish entirely satisfactory results. Safety engineers will do well to look into all competitive methods of testing and measuring before adopting the electronic method.

If, however, they find the electronic method the only solution to their problem, they can often put it across with greater success if they will analyze and report to the operating superintendent the many economic advantages that are frequently associated with the safety improvement in question.

Industrial Health

—From page 37

hearing damage is the same function of frequency as is the hearing sensation.

The noise sensation levels which are produced by sound various frequencies are far from constant. The same sensation is produced by a 90 decibel sound pressure level at about 2,500 cycles per second as is produced by a 110 decibel sound pressure level at approximately 100 cycles per second. From the peak sensitivity at approximately 3,000 cycles per second the sensitivity falls with increasing frequency until it is about the same at 10,000 cycles per second as at 100 cycles per second.

To determine the effect on hearing loudness measurements should probably be made in units of a critical hearing band; that is, the narrowest bands about any frequency in which a tone of the central frequency will be masked when a noise of equal intensity is introduced into the band. Since the addition of noise outside the band does not contribute to the masking of the tone within the band it is assumed that it likewise does not contribute to the deafening effect of the noise within the band.

There is no instrument available, however, for measuring sound pressure levels or loudness in critical bands or even in bands of an equal number of pitch units. The most common measuring device is the octave band analyzer. It has been demonstrated that octave band measurements can be interpreted in terms of equal tone loudness however and the criterion set up in this paper is based on such an interpretation.

The fact that the spectra of noise in industry on the average are almost flat with frequency and that the region of about 3,000 cycles per second is the most sensitive to noise explains the "notch"

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at about 4,000 cycles per second in the audiograms of many industrial workers in the early stages of industrial deafness. It has been observed that the hearing loss in temporary deafness occurs a frequency about one-half octave band above the frequency of the stimulating noise. From experience in the Armour Research Foundation and some confirmation from the literature it is felt that if the noise level does not exceed 50 sones (an acoustical unit is such that a sensation of loudness at 50 sones is just one-half that at 100 sones) there will be no hearing damage and if the noise is above 100 sones in any octave band the loss of hearing will probably occur after a long exposure. The difference between these two limits is about 9 decibels and 50 sones corresponds to approximately 88 decibels at 1,000 cycles per second.

This criterion checks well with the published reports of hearing damage in various industrial environments and with some other investigations made by the Armour Research Foundation. The 50 sone lower level also approximates the sound level in the critical regions in a DC-3 aircraft and in the Chicago subway, neither of which appear to have produced any deafness in persons exposed for a long time.

As a rough indication it can be pointed out that in the usual industrial environment in which the noise spectrum exceeds 100 sones per octave band it is commonly necessary to shout directly into another's ear to carry on a conversation. Below the 50 sones per octave band limit it is possible to carry on a conversation at a distance of a foot or more by simply talking louder.

Dollars for Cleanliness

—From page 33

of shower and locker space and are given "clothes change" time at the end of each shift so they may clean up and change clothes before leaving the plant. It is not necessary for all workers to take a shower at the end of their shift, but everyone is provided with a locker for extra shoes, gloves, aprons, etc. A locker for each person was quite a problem in some departments where there was a minimum of space available.

Good drinking water, a pleasant place to eat, washing and toilet facilities, etc., are necessities for good health which we all recognize. There are other aspects which must be considered. The average person may not be aware of these problems, or at least doesn't give them much thought.

Every industrial plant must consider the operations performed and the materials used when guarding the health of their employees. There are more than a thousand different industrial materials that are hazardous. To these may be added many conditions of employment which could affect a worker's health. It is important to remember that the mere use of a hazardous material does not necessarily imply a health hazard. Any hazardous material may be used if proper precautions are taken to protect the user.

—Turn page

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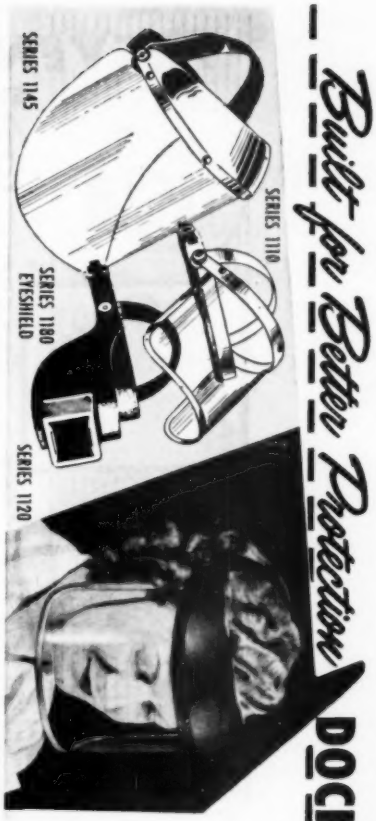

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The best and easiest way to guard against hazards of this type is to find another material that will do the job safely and as well. Wherever possible this is the policy at Olin, as in many industrial plants.

Where necessary, exhaust systems are provided to draw off and dispose of any irritating or dangerous fumes or gases. On jobs where exhaust systems cannot be used, respirators or masks are worn. They are also worn on jobs where dust or dirt is a nuisance.

From the standpoint of frequency, dermatitis is by far the most prevalent industrial disease, but the disability time per case is lower than for most other occupational diseases. It is well to remember that not all individuals are susceptible to the same degree to skin irritants. There are many factors which govern to what extent workers are affected. For example, Negroes and brunettes are less susceptible to irritants. Blondes, fair-skinned and thin-skinned individuals are more easily affected.

Perspiration normally acts as a mechanical remover and diluent of irritants on the skin. However, excessive perspiration, especially if combined with friction, is irritating and may convert some solid chemicals into irritants. Other factors to consider are diet, age, sex, season of the year, cleanliness, and allergy. It is said some persons can just step into a room which contains certain compounds and they will break out with itching and inflammation although they do not touch any material.

Olin reports a low ratio of dermatitis cases. They credit control of the disease to proper handling of materials and the use of protective equipment and protective creams and lotions. Olin employees are instructed in the proper use of the rubber gloves, aprons, respirators, creams, etc., that are available to them.

EDITOR'S NOTE: The information and illustrations for this article were made available through courtesy of *The Westerner*, the employee magazine of Olin Industries, Inc., East Alton, Ill. This magazine publishes an illustrated feature story each month dealing with some phase of the safety and health program at the plant.

Design Safety In

—From page 23

published for supervision, with pertinent data and recommendations.

The safety director participates actively in area safety councils and in national safety organizations.

The engineering and maintenance departments are working constantly with the safety department. Their theme is *Design safety in and accidents out.*

Bi-annually the entire working force is x-rayed, with a definite follow-up on each case conducted by the safety department.

The benefits from monthly meetings are relayed from supervisors to workers largely by personal contact. Supervisors stress the personal angle—the loss to the individual and his family not covered by compensation. This is brought out in charts and displays and it has been found that this appeal has a strong influence on the worker.

In addition to personal contact by supervisors, data sheets are posted on bulletin boards along with posters secured from the National Safety Council. The company publication, *The Eaton News*, carries safety material in each issue along with an insert devoted to local plant news.

A two-way program of safety communication is constantly kept open. It is based on the foreman-worker relation that began when the employee began work in the department. The plant suggestion system is a valuable source of practical safety ideas.

Modern Equipment

Along with this program of education, the Foundry Division has made steady progress in the installation of modern handling equipment and introduction of improved techniques.

Mechanical equipment installed as part of the modernization program included industrial trucks, conveyors, overhead cranes, lifts and hoists, monorail systems, and a pneumatic sand-handling system with automatic distribution. Manual equipment, such as hand trucks and trailers, are still needed.

—Turn page

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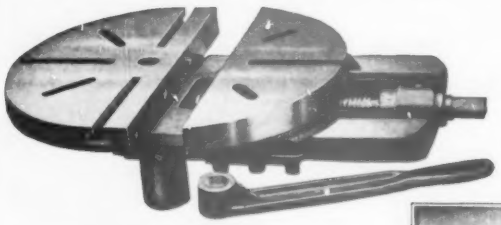

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The foundry layout was modernized and streamlined. Straight-line flow was introduced wherever possible. Routing of in-process goods was studied and individual moves shortened.

In the foundry proper, a larger overhead duct brings in fresh air from the north end of the plant. Air is drawn in by a large fan and distributed to each iron pourer and operator by down pipes. By means of a damper arrangement the worker can regulate the flow of air according to his needs. This has proved more satisfactory than individual blowers or man coolers.

Material or equipment which is not in use is immediately removed from the plant. A central disposal area has been set up for broken and worn-out grinding wheels, scrap metal, and all other useless material. Equipment that can be used again is repaired and stored in the warehouse. If not repairable, it is scrapped immediately.

Lighting of the foundry was studied and improved. This is believed to have contributed to the reduced accident rates.

To reduce sunblinding of shop truck drivers and others, a new glare-reducing and heat-absorbing glass is used in various sections of the plant. This eliminates painting window panes.

Since the permanent molding process requires the use of acetylene gas, it involves problems which require careful maintenance and safe handling. Generators are housed in a separate building far enough from the plant proper to minimize damage in case of explosion. Only non-sparking maintenance tools are allowed in this building. Disposal of sludge from generators is made in a specially designed tank-type truck.

All gas lines have pressure regulating valves to insure proper pressure. Water seals are used in gas lines to prevent flash backs to the acetylene generating building. On the outlet end of the gas lines, bursting discs vented to the atmosphere are provided. On each gas line, emergency shut-off valves are installed and marked with appropriate signs. This cuts off the gas supply to the foundry proper.

Inside the generator building, air hoists and brass chains are also used for chain falls where required. The generating building itself is constructed with an explosion-type roof. An employee-training program for operators is in constant process, insuring at least three trained men per shift.

Personal Protection

Modern safety equipment is provided for the entire plant. All workmen are supplied with goggles free of charge. Here again, constant education and supervision are needed to make sure that they are used. Safety shoes are made available at cost through the dispensary and may be purchased via payroll deduction. Gloves, mitts, leggings, etc., are furnished free of charge. Machine guards, while only a minor factor in foundry operations, are required on grinders and in the tool room. Prescription lenses are provided on a share-the-cost basis for those who desire them.

An important contributing factor to low frequency and severity has been the constant campaign for cleanly swept aisleways both inside and outside of the plant. Such arteries are permanently marked with painted steel beam protective barriers which serve a dual purpose of marking aisles plus protecting employees from on-the-floor traffic. A continuance of this good housekeeping program is the restriction of stacking skid bins in designated areas; some areas are limited to skid bins being stacked one, two, or three high.

Dust collectors are used in all sections of the plant. Sludge and used coolant from centerless grinders are channeled through cement ducts to a large settling pit. From this pit sludge is removed by elevator for disposal.

All systems such as heating boilers and air compressors have automatic safety controls for shutoff to prevent explosions and danger of overloading.

The Foundry Division's safety program is as exacting as any production department's operation for which standards are established and goals and low cost must be realized. Eaton officials do not lose sight of the fact that a safety

—Turn page

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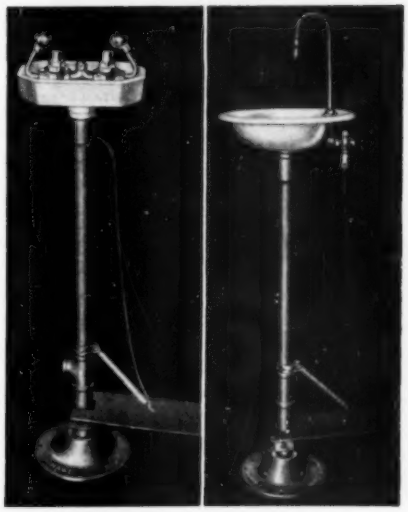

AND to *prevent* dangerous and expensive eye accidents, encourage workers to wear goggles and plastic face shields by installing a HAWS Goggle-Wash Fountain—eliminates one of workers' main objections to wearing these safety devices.

"Precaution" is really the cheapest thing you can buy!
HAWS Safety Equipment costs only a few cents per worker.
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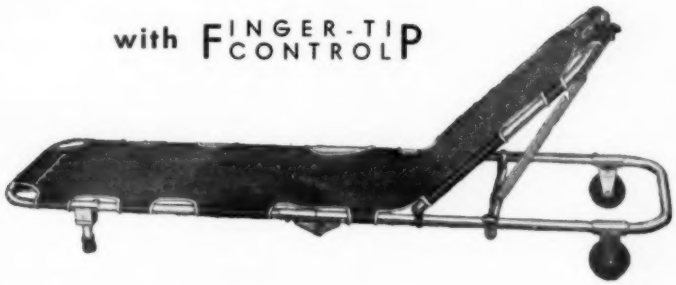

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NO PARTS MOVE ON THE STRETCHER FRAME
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Asbestos Gloves for HOT Jobs

Industrial
No. 200-14

To be sure of the Genuine Demand this Trade Mark

There's a *Big* difference between Asbestos Gloves and you can *tell* the difference when you get Industrial's No. 200-14 asbestos gloves. *The quality stands out* in your hands and *on* your hands. Seamless one piece construction from tip to top. No seams at the wrist or working edges to pull out or burn out just when protection is needed most on a hot job. Made lined or unlined. Standard lining is an 8 ounce knitted cotton material anchored in each finger and thumb. Knitted wool or industrial wool lining on request. *The quality stands out* in the correct design and proportions of the big roomy pattern that allow a cool, comfortable fit. Double sewn throughout. Standard 11, 14 and 23 inch lengths. Other lengths and many special types of asbestos gloves and mittens are available both plain and leather reinforced. The quality of all these items stands out because they are all made of sturdy, close woven 2½ pound per square yard Underwriters grade Asbestos cloth.

Be safe—use Industrial's Safety Apparel backed by more than 40 years of experience and know-how that means dependable low cost protection for rough, tough service.

We are designers and manufacturers of a complete line of Industrial Safety Apparel. Write for catalog and tell us your requirements.

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program, properly and sincerely administered, can produce real profits.

Top management, supervisory personnel, and the individual workmen all know the benefits derived from cooperative effort in health and safety.

Love the Stranger

—From page 29

and illustrative detail. The recital showed the bitterness of the well-intentioned man given a real opportunity for advancement, seeing his hopes crumbling under attack. It did not seem strange or villainous that this man in his frustration exaggerated and returned unjust counter-charges for charges against him which were also, in a measure, unjust.

I tried to remember both the preacher's words and the words of the industrial psychologist—words that suggested the value of letting the other man popoff, both to relieve his own tensions and to gather from his free-flowing emotions something of the background of difficulty. So I sat, nodding, being interested, looking interested, agreeing when I could, being silent when I couldn't.

He went on quite a while, and toward the end was pacing the office, his words slurring, running the hard shop obscenities more and more into what had been a fairly tight and restrained vocabulary. And I still sat.

Finally he sat again and was silent for a moment. Then he looked up the anger had gone from his voice, and said, "What is it? What louses up this job? Why do you guys tear down every man you put at this desk? Are we just a bunch of Hoosier jerks who don't know from nothing? Or do you front office hot shots do this to all your supers, to scare them into killing themselves to get out the production? I just don't understand you guys."

I could have ducked most of the attack, most of the questions, for they did not directly concern me. I could have separated myself from his blanketing of safety with the other front office interests. But he would not have believed me, or if he did, would have been left with all the deep sense of wrong and separation. He would have remained the stranger.

So I said, "Black, this is a big and basic thing. We are strangers to you, and you are a stranger to us. We've come trying to be helpful—but you may be right that our help has been interference, that we have let our ambition make us hecklers and not allies. Harry and I have tried not to do that, but maybe we've slipped as much as anyone, using charges of non-cooperation at Galeston as our alibi for the high accident rate here.

"I don't know. A guy can kid himself, and maybe that's what we've done. But I'll make you a deal. Beyond the semi-annual inspection that the front office demands of us, Harry and I will stay off your neck, unless you ask us in. And when we catch anything in regular inspections we'll come to you, and give you time to correct before we report. And if you ask us in for a special problem, we'll report to you in confidence. There'll never be a word said about shortcomings at the front office unless you say it or ask us to say it."

He grunted, "What will you safety guys do to protect your reps, then?"

"I don't know for sure," I said. "I think if we can work together maybe the accident rate will drop, and then our reputations won't need protection—and yours won't either."

"And if it doesn't?" he asked.

"I can wait a year," I said.

He laughed again, less tensely. "In a year I'll have been kicked out or I'll have told them what they can do with this lousy job. Unless things get better."

"Maybe we can make them better," I said.

"Not you," he replied. "It's not just you. Maybe not at all you and your bright boy. Maybe you're good guys. Maybe you can help, maybe you have wanted to help. But you're just part of a stinking parade of smart guys after our throats."

I said, "Maybe I can help there, too. Maybe we can set a pattern, you and me. Maybe we can prove that Galeston cooperates if it gets a chance."

He tried to look cynical, but didn't quite make it. Instead he said, "I'll try you. I'll give you a chance to cut my throat, because on this job I don't give a hoot if it does get cut. You and your boy have missed completely the situation down at Shop 2. We've slid you past that setup twice in the last year and you never caught it because I figured I couldn't get the money for the guarding program we need there. And maybe it was because I don't know how to plan it and didn't want to give you a chance to prove your cleverness.

"Do you want to look it over—as a special job, like you said, with no report back home, no credit for the solution, no benefit to you except that we may stop some accidents?"

I found the old sense of dislike of the stranger mount. To be asked to cover up. Probably to have to ignore some phonied records. To work my head off without explanations to my boss, to give away credit for a job of good, sound safety engineering! That was asking a lot!

And then I caught myself. This was what I had offered. "Love ye also the stranger." Which must mean to wish him well. And this could be good for the super of Galeston, who is no more a stranger than I was when I first came to Egypt—to the hostile, suspicious Egypt that was the Jackson-Barnes main plant the first weeks I was there.

"Okay," I said. "Let's look it over and work it out. No report, and the credit goes to you."

As we started out to the shop, I was startled to feel his hand rest a moment on my shoulder, then drop quickly. "You might be levelling," he said, and the words sounded like thanks.

Safety Library

—*From page 56*

AMA Archives of Industrial Hygiene and Occupational Medicine, Nov. 1953, p. 406.

Studies of the Acute and Chronic Toxicity of Germanium. By George Rosenfeld and E. J. Wallace.

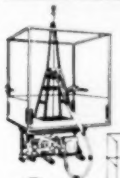
—*Turn page*

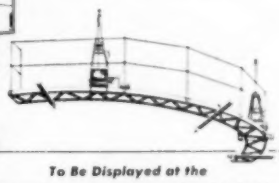
ALBINA MECHANICAL STIRRUPS

Say these users

Western Electric Co., Kearney, N. J.
Pacific Gas & Electric Co., San Francisco, Calif.
Eastman Kodak Co., Rochester, N.Y.
W. P. Fuller Co.
Ford Motor Co., Detroit, Mich.
Western Waterproofing Co., St. Louis, Mo.

Safety Approved by State, Municipal, and Corporation Safety Boards and Certified Engineers.





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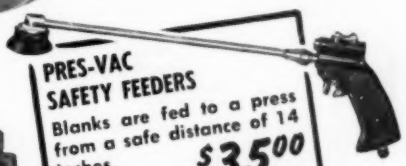

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This is one of the most popular Industrial Eye Shields ever invented — and here are a few reasons for its outstanding popularity:

1. One-piece construction, moulded from .060 clear Lucite. Extremely light weight.
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NOTE TO DEALERS: When ordering in standard dozen lots, we recommend 2 of 39-A, 4 of 39-B, 4 of 39-C, and 2 of 39-D. This assortment seems most satisfactory and is based on actual requirements in industrial plants.

This eye shield is available at all better class dealers. Write us direct if additional information is desired, not only regarding this shield but any and all eye and face hazards existing in your plant.

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622 N. Aberdeen Street Chicago 22, Ill.

AMA Archives of Industrial Hygiene and Occupational Medicine, Nov 1953, p. 466.

Toxicity of Malathon. By Lloyd W. Houghton and Emily G. Holland. *AMA Archives of Industrial Hygiene and Occupational Medicine*, Nov. 1953, p. 399.

Hospitals

Chief Ingredient of a Successful Safety Program. Hospitals, Nov. 1953, p. 78.

Lightning

Lightning Protection in Extra-High Voltage Stations. By I. W. Gross and others. *Electrical Engineer*, Nov. 1953, p. 967.

Paper Industry

The Economical Construction of Safe Pulpwood Holding Grounds. By R. Kennedy. *Pulp and Paper Magazine of Canada*, Oct. 1953, p. 172.

Sawmills

Improving the Safety Record. The Timberman, Nov. 1953, p. 64.

Workmen's Compensation

Workmen's Compensation in the United States — Accident Prevention. By William L. Connolly. *Monthly Labor Review*, Oct. 1953, p. 1063.

Green Cross News

—From page 48

A panel discussion on "The Safety Team" was moderated by Ray Carr of the NSC Board of Directors. Subjects included logging and sawmill operations, heavy construction, food processing, building construction, automotive and repair, electric utilities, plywood and metal industries. Paul E. Gurske, chairman of the State Industrial Accident Commission, was general chairman of the conference.

Alberta Finance Compaign

The Alberta Safety Council has embarked upon a membership campaign which it is hoped will provide extra funds to set local safety councils up in business and also to enlarge the programs of water safety and farm safety throughout the Province. The appeal for support is directed to business firms only. The field of individual memberships will be left to community safety councils as their source of revenue.

Manager Appointed for Fresno County Council

Walter C. Lunsford, 43, of Fullerton, California assumed his duties as administrator of the newly organized Fresno County Safety Council on November 16. Headquarters have been established at 507 North Fulton Street, Fresno. According to Willis B. Kyle, the council president, Lunsford will be in full charge of all activities, which will include safety on the streets and highways, in and about the home, in the schools, on the farms, and in the industries and mercantile establishments of Fresno County. The new organization plans on becoming affiliated as a chapter of the National Safety Council. Lunsford was employed by the Northrop Aviation Company in Anaheim for the last year as personnel coordinator and safety director. Previously he served three years as the head of safety and driver education in the Fullerton High School. In World War II, he served in the navy as a

THE BERGMAN
Safty-Spanner
a helper you can trust
MADE OF THE TOUGHEST ALUMINUM-MAGNESIUM ALLOY
WILL NOT
DAMAGE VALVES
MAKE SPARKS
MAKE BURRS
SLIP OFF

The Bergman SAFTY-SPANNER CO.
927 BUTLER ST., TOLEDO 5, OHIO

lieutenant commander. In addition to being a graduate of the University of Washington, he also attended the University of Southern California. Lunsford has purchased a home in Fresno where he and his wife and two children will reside.

Seventh Annual Fire Show

Dayton's Seventh Annual Fire Show held in late Fall drew an audience of several thousand persons to the Montgomery County Fairgrounds where the spectacular and colorful demonstration was held. Interesting features included a display of the first known fire fighting equipment and the first organized fire department in operation. There was a demonstration of first aid fire fighting equipment and various types of hand pumps and hose carts, chemical tanks and pumpers. By way of contrast, aerial rescues "then and now" were staged. The Grand Finale featured the 1953 models of fire fighting equipment.

Newsmakers of Tomorrow

Paul W. Seibert, managing director of the Seattle-King County Safety Council, was recently named by the Committee for Seattle's Future as one of a hundred young leading businessmen in that city selected for their unique qualities of leadership and promise of future achievement. The Committee, sponsored by the Seattle Chamber of Commerce and the weekly newsmagazine *Time*, nominated the individuals as Newsmakers of tomorrow, young men of vision who will contribute in a major way to the development of Seattle as a better place in which to live and work.

The Deadly Canal

Thirty-three persons have drowned in the Contra Costa canal running between Knightsen and Martinez, Calif., since 1937. In an effort to prevent further loss of life, the Contra Costa Safety Council with headquarters in Martinez, recently circulated a petition asking the Federal Government to provide "adequate safeguards" for the canal. Samuel Conti, well known lawyer of Pittsburgh, Calif., who is the newly elected

Enduring Top of Stainless Steel
Famous Sanitary 2-Stream Projector
2 important features
to promote sanitation in your plant
Yes, in one modern cooler you get the two important features that mean so much in trouble-free maintenance in any plant!
Enduring Stainless Steel Top—easy to maintain, sanitary and wear-resisting, clean.
Two-stream Halsey Taylor projector—drinking mound at uniform height regardless of pressure variation, contamination-proof, ever hygienic!
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Halsey Taylor
COOLER FOUNTAINS
SEE OUR CATALOG IN SWEET'S
F-30

AEROTEC INTEGRAL
DUST COLLECTORS
build
good will for you!
The AEROTEC INTEGRAL, one of the most efficient mechanical dust collectors ever developed, builds employee goodwill for you by removing the dust hazards in your plant. Conforming to the more stringent Dust Codes, the AEROTEC INTEGRAL also saves you money by protecting machinery and equipment from abrasive dust.
Only AEROTEC offers you high collecting efficiency over a wide range . . . constant suction at the hood . . . no fire hazard since all materials used in construction are non-combustible . . . long life . . . self-cleaning collecting elements . . . easy maintenance—only periodic removal of dust from hopper or bin.
Let us help you solve your dust-collection problems. Call or write today!
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For Safety
Guardi-Ann
Hat
Combines utmost protection and style. Exclusive patented features found in no other hat.
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Slide Kelly Slide has no place in your plant . . . it's Fine on the ball field, but members of your organization sliding on slippery floors are never safe . . . Sliding accidents keep safety costs high . . . mar perfect safety records.

Canfield OIL-SPUNJ

Keeps Floors Dry.. Oil Free . . . Stops Sliders . . . Keeps Your Safety Record Good

CANFIELD OIL SPUNJ Helps Reduce Costs 3 Ways By Providing:

1 *Lower weight per cubic foot — absorbs more oil per lb. of weight.*

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president of the safety council, announced recently that 10,000 signatures had been obtained and that the petitions were being presented to U. S. Senator William F. Knowland. Since the canal is a Federal project, the feeling is that the government should pay for the expensive fencing job that will be necessary. Conti stated that "if the government doesn't act, I will file a taxpayer's suit to compel federal construction of a fence along the entire length of the canal." The situation was underscored in late November when Warren Anderson of Clyde, father of a three-year-old boy, Joe Anderson, who drowned in the canal November 16, wrote directly to President Eisenhower appealing for government action. The boy drowned within a hundred yards of his home. The family has since moved to Oregon to get away from the sad memories of the loss of their child.

Pittsburgh Hunters Die

The Western Pennsylvania Safety Council conducted an area-wide check when the hunting season opened recently, and the gruesome toll showed that on the opening day alone, four hunters were killed by shooting, three died from heart attacks and another succumbed from burns suffered while lighting a fire in his hunting camp. The record was in decided contrast to last year's opening day experience when there was not a single hunting fatality in the district. The council immediately inaugurated a far-reaching educational campaign designed to reach and appeal to all hunters during the remainder of the season.

Calendar Contest Winners for November

First prize in the National Safety Council's Safety Calendar Contest goes this month to Thomas F. Corcoran, E. I. du Pont de Nemours & Co., Gibbstown, N. J. The theme in this contest was a danger foreseen is half avoided. Mr. Corcoran's last line was adjudged the best of all those submitted. It was:

To inspect and protect and prevent.

Second prize went to Mrs. D. J. Homan, Denver, Colo., for this line:

To refuse to re-fuse with a cent.

Third prize was awarded to Miss

DANGER REDUCED

Danger of runaway cars, danger of injuries to employees working in and around cars, danger of costly derailments . . . all these dangers are reduced when you use the M & M RAIL CLAMP to hold car wheels in immovable position . . . it positively will not slip.

This dependability has been proved over and over in steel mills, ship yards, cement plants and other heavy industries . . . and it can be used anywhere without danger of slipping—for cars on grades, car ferries, excavators, loading platforms, steam shovels and many other places.

The M&M RAIL CLAMP is built for durability, designed for easy operation. Body is electric furnace steel casting; lug and wedge are highest grade drop forgings.

Why not put this extra safety in your plant? It's an added safety measure that costs so little. Write for further details and prices. SAFETY FIRST SUPPLY COMPANY, 425 Magee Street, Pittsburgh 19, Pa.

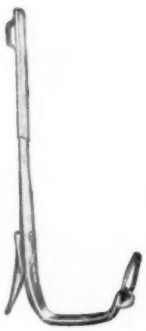
M & M RAIL CLAMP
It will not slip!

SAFE ON THE JOB

Another First

One piece aluminum sleeve adjusts from 15" to 18" in multiples of ¼". Locked in place with standard steel screws.

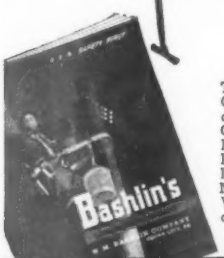
Comfort on the job, lightness and safety combine in Bashlin's adjustable Climber with removable gaff . . . Forged of aluminum alloy, the Bashlin Climber is lighter than conventional climbers and the *Same Strength as Equivalent Steel*. It's form fitting and has all the original Bashlin features.



Removable gaff forged from alloy steel, features triple locking device with standard self-locking tested steel screws

HOT LINE TOOL FACTORY DEMONSTRATORS

Men who think first of safety and efficiency on the job — use Bashlin Equipment.



The new Bashlin Catalog gives full details on the Complete Bashlin Line of Safety Equipment for Linemen and Maintenance men. Write for your copy.

W.M. BASHLIN COMPANY

GROVE CITY 1, PA.

Lois McCarthy, secretary to manager, Kraft Foods Co., Pocatello, Idaho, for the following line:

Only dolts loud on volts—then lament!

The November limerick was:

What a shame about Margie and Kent!
In their home there was carefree content.
But their dream house was burned,
And too late they have learned

Thirty $5 awards were issued to:

Mrs. C. H. Bowlen, Haverhill, Mass. Individual Member.

Mrs. H. H. McCain, Wichita, Kans.

Mr. William Dilley, president, Pilley Mfg. Co., Cleveland, Ohio.

Mrs. Violet Lewis, Orange, Texas.

Raymond T. Ledo, Tape Slitting Opr., Minnesota Mining Mfg. Co., St. Paul, Minn.

Frank Cowan, chief engineer, Swift & Co., Perry, Iowa.

R. Cheyne-Stout, Orlando, Fla.

William A. Charles, stock comptroller, B B Chemical Co., Middleton, Mass.

Mrs. Steve Mascik, Conneaut, Ohio.

Ruth O'Gara, secretary, Lake Superior District Power Co., Ashland, Wis.

H. T. Orsborn, c/o Elgin Academy, Elgin, Ill. Individual Member.

Mrs. Agnes Craig, stenographer, Purchasing Dept., Soss Mfg. Co., Van Dyke, Mich.

Miss Olivia Schultz, St. Joseph, Mo.

J. D. Grace, sales manager, Crusher Dept., Nordberg Mfg. Co., Milwaukee, Wis.

Mrs. Harold Landes, Mishawaka, Ind.

Hurley A. Low, Derby, Kans. Individual Member.

A. L. Jordan, U. S. mail carrier, Tulsa, Okla.

Mrs. Florence N. Smith, Lynchburg, Va. Individual Member.

Mrs. P. Denneby, Butte, Mont.

John C. D. Oosterhout, research chemist, The Texas Co. Refining Dept., Port Arthur, Texas.

Mrs. Ben Goddard, Kansas City, Kans.

Frank DeVito, Connecticut Power Co., Stamford, Conn.

Karl O. Duerr, IBM Corp., Endicott, N. Y.

Mrs. L. K. Schmidt, Col-Tex Refining Co., Colorado City, Texas.

Mrs. H. Muller, Danboro, Pa. Limited Individual Member.

Miss Lorna Hill, Accounting Department, Gananoque Works, The Steel Company of Canada, Ltd., Gananoque, Canada.

Louise Surgison, secretary, West Penn Power Co., Pittsburgh, Pa.

Henry Layman, Alpha Portland Cement Co., Catskill, N. Y.

Miss Sue Billings, Rochester Public Library, Rochester, N. Y.

Garland C. Hill, Cracking Department, Shell Oil Co., Martinez, Calif.

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Kleerflo SUPER CLEANMASTER MODEL 50

CLEAN AUTOMOTIVE INDUSTRIAL PARTS 3 WAYS!

1. Continuous flow hose
2. Air Agitated soaking tank
3. "Super Power" Jet Air Gun

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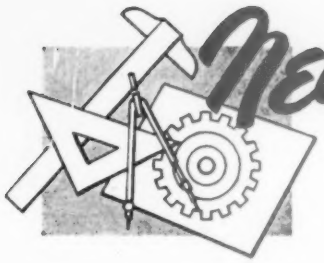


New safety equipment for industry

Manufacturers are invited to send in announcements of new products, or improved special features. Only items which can be considered as "news" to our readers will be published.

Floor Machine

The Model "K," like other Hild floor machines, is now equipped with an automatic safety switch. It is of the "momentary contact" type which turns on the current when the switch lever is pressed against the handle grip, and instantly shuts off current when the operator lets go of the grip. This model is only 34 pounds or 38 pounds with brush attached. A free descriptive circular is available by writing:

Hild Floor Machine Co., 740 W. Washington Blvd., Chicago 6.

Item No. 1.

Press Control

A new two-hand clutch control, called Micro Trip, for manually-operated power machines is shown here on a punch press. It is said that installation of the device on manually-operated power machines usually results in 10 per cent to 25 per cent gain

in production. It has an instantaneous electrical response, and a light touch actuation that reduces operative fatigue.

The control device prevents tying down or cheating because its two control switches may be pressed simultaneously to operate the press. If one switch is pressed before the other one, the tripping mechanism becomes inoperative and must be reset by a button on the control box. Full details available from:

Micro Division of Minneapolis-Honeywell Regulator Co., Freeport, Ill.

Item No. 2.

Wheel Guards

A new line of wheel guards for flaring cup and straight cup wheels which represent a new principle of guarding grinding wheels is announced. These guards revolve with the wheels and comply with American Standards Association "Safety Code for the Use, Care and Protection of Abrasive Wheels." Write for illustrated brochure to:

Morrison Products, Inc., 16816 Waterloo Road, Cleveland 10, Ohio.

Item No. 3.

Industrial Gloves

Fairfield reminder slogans are being printed free on the industrial gloves by this company. The slogans deal with such production problems as safety, maintainance, housekeeping, economy of materials, mysterious disappearance, and workmanship. It presents another way of teaching safety and any message can be printed within the mechanical limits. For details write:

Fairfield Glove Co., Fairfield, Iowa.

Item No. 4.

Spreader for Ice Control

Model SC-52 Pull-Type Spreader is small and convenient enough to ice-proof walks, driveways loading platforms, as well as parking lots and other around-the-plant

locations, with fast, efficient economy. It can be attached to any truck without changes and spreads a fine or heavy coating of salt, sand, cinders, calcium, chloride, chips, and other skid-proofing materials. For further information write for Bulletin A-371 to:

Baughman Manufacturing Co., Jerseyville, Ill.

Item No. 5.

Roll Up-Ender

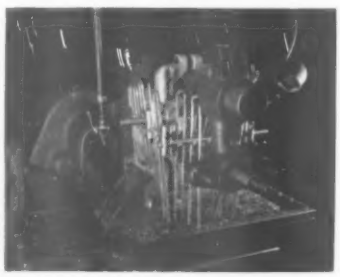
A new special hand hydraulic roll up-ender, designed for moving and up-ending rolls of cloth, paper, plastic, steel, etc. is a new development. The unit has a 1000-lb capacity and a 32-inch lift. A roll is moved from a dolly or hand truck and loaded on the Up-Ender's concave platform in a horizontal position. The operator then moves the loaded Up-Ender into the warehouse and spots it alongside other rolls. A handle on the front of the lifting arms releases the platform, permitting it to move from horizontal to a tilted position. A hand hydraulic pump raises the platform and up-ends the roll. For more information on this model, write:

Service Caster and Truck Corp., 440 Somerville Ave., Somerville 43, Mass.

Item No. 6.

Milling Machine Guard

This new guard is designed to prevent accidental injuries on mills. Adjustable



vertical hexagon rods close together form a barrier around three sides of the rotating cutters. They are adjustable for various table settings, to just clear work, straps, jigs, air nozzles, etc. Each vertical rod is locked in place by a thumb screw.

All guards are easily installed on existing mandrels or over arms by means of two heavy "V" block castings locked in position wherever desired. Each guard is so designed so that it may be made smaller or larger to accommodate various articles. Write the manufacturer for full details:

Searjeant Metal Products, Inc., Mendon, N. Y.

Item No. 7.

New safety equipment for industry

Further information on these new products and equipment may be obtained by writing direct to the manufacturer or to National Safety News. Accompanying coupon is for your convenience.

Clamp for Rubber Blankets

A non-metal clamp for linemen's rubber blankets has been redesigned and is now being manufactured in two sizes — 7½ inches and 10½ inches. Made completely of wood with the exception of three bands of rubber which furnish the spring action, the clamp contains no metal to conduct current or to interfere with its serviceability. The pin is made to fit into the blanket holes but many linemen prefer the smooth jaw to permit clamping onto any part of the blanket. Tension for holding the jaws in place is furnished by three bands of super-aging rubber grooved into the clamp so they cannot slip out of place. For more details write the manufacturer: **Surety Rubber Co., Carrollton, Ohio.**
Item No. 8.

First Aid Kit

Mine Safety Appliances Company's new "Type D" all-weather first aid kit exhibits new design and packaging features, a special color-identification system for packaged materials, and the first-aid items for inhalants to bandages are originally controlled to pharmaceutical standards by a quality control procedure whereby every unit carries an identifying key number. This means that any first aid item can be tracked all the way back to its original source, and guarantees the user the same inspection and control found in the highest quality pharmaceutical products.

The individual Unit "D" packages feature new simplified, fully illustrated instructions in large, clear type. A new blue color gives both the unit boxes and the kits a clear, distinctive appearance. To avoid confusing one antiseptic with another, the labels of each antiseptic are printed in different colors. Only pure ammonia solution is used for inhalants it is added, and the vials are covered with a special treated fabric that turns brown in case of leaks. Simplified, graphically presented general first-aid practices are given on a sheet inside the lid. Full details are available by writing:
Mine Safety Appliances Company, Braddock, Thomas & Mead Sts., Pittsburgh, Pa.
Item No. 9.

Skin Cleanser Dispenser

With a minimum of parts, continuously lubricated by the cleanser itself, this new dispenser for waterless skin cleansing is said to provide trouble-free usage. A two-way feed adjustment provides a choice of amount dispensed. The spout is of the no-drip type. The entire dispensing unit is constructed of heavy aluminum, with rigid mounting bracket an integral part of the dispenser. Rustproof, the exterior is polished to a smooth satin finish.

A new dispenser is designed so that it can be securely bolted for easy mounting on a wall or any convenient surface. A special "throw-away" container provides easy filling. The entire container is simply lifted off and the new one slipped down into the dispenser housing. Each container provides from 1,000 to 1,500 washings. For details, write the manufacturer:
Sugar Beet Products Co., Saginaw, Mich.
Item No. 10.

Dual Purpose Respirator

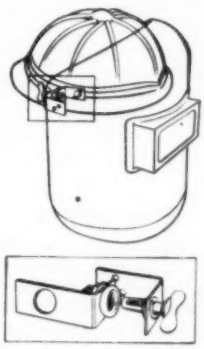
A dual purpose respirator, with twin cartridges for organic vapors or filters for dust is a new development. The facepiece of this respirator is contoured of soft rubber to provide snug, comfortable, leak-proof fit even with light tension on the two adjustable headbands.

As No. 99 Respirator, for organic vapors, it has twin 85cc cartridges with inhale and exhale check valves to prevent re-breathing. Cartridges are quickly replaced from front by unscrewing retainer caps. As No. 96 Respirator for dusts, it has twin treated wool-felt filters with high filtration factor. Because there are no outer screens or covers over filters, entire surface area of each is usable, thereby prolonging filters' life and reducing breathing resistance. For full details on this dual respirator, write: **Chicago Eye Shield Co., 2300 Warren Blvd., Chicago 12.**
Item No. 11.

Helmet Device

Another contribution to the safety and convenience of construction workers and welders is a new device, developed by Davis engineers to improve the safety and functional convenience of Hedgard safety helmets and welding masks which permits quick attachment and separation of helmet and mask without removing the helmet from the head.

The device consists of a simple, foolproof spring lock fastener. A metal post on each side of the mask "plugs" into a lug fastened to each side of the helmet.



New safety equipment for industry

Manufacturers are invited to send in announcements of new products, or improved special features. Only items which can be considered as "news" to our readers will be published.

A twist secures it in place, and a reverse twist disengages it equally easily. It cannot come unfastened accidentally.

A device may be used with helmets and masks other than those made by Davis. Full information will be sent by the manufacturer upon request. Write:

Davis Emergency Equipment Co., 45 Halleck Street, Newark, N. J.

Item No. 12.

Glove Dryer

A new accessory for the Sani-Dri electric boot dryer has been developed which is now available for drying gloves quickly.

Consisting of a set of two forms in the shape of hands, the glove holders are easily attached to the air stream tubes which are ordinarily used for drying boots.

The twin streams of warm air dry the gloves quickly without danger of burning or damage because of excessive heat. Further details about the unit can be secured by writing:

The Chicago Hardware Foundry Co., North Chicago, Ill.

Item No. 13.

Wheel Block

A new, heavy duty safety wheel block reaches 14 inches high and has a 15 foot by 10 inch base to provide maximum stability and holding power for blocking heavy vehicles and loads is now available.

Cast in one piece from high strength alloy steel, the new Block provides positive holding on any surface, including ice, wet pavement, packed clay, etc. The block's height and large base prevent the vehicle

from rolling up over, or pushing it into the ground. The wide, curved tread plate is designed in such a manner that it will accommodate the heaviest truck tires, yet provide maximum contact for smaller tires as well.

Heavy steel gripper teeth on the base of the Block dig in and hold it firmly in place when the weight of the vehicle is brought to bear on the Block's tread plate. Fast, easy handling placement and removal of the Block are assured by the cast-on handle in the heavy center supporting rib. Block weighs 30 lbs. and is painted Standard Safety yellow for high visibility. Write the manufacturer for full details:

Calumet Steel Castings Corp., 1636 Summer St., Hammond, Ind.

Item No. 14.

"Non-Flam" Safety Package

E. F. Houghton & Co. has just finished a study to determine what products in its standard line will help reduce the present fire hazards in industry, and have assembled a "non-flam" safety "package" group of processing products that are safe to use in the vicinity of fire and intense heat. These all contribute to plant safety as well as efficiency in metal processing.

First is a new, non-flammable hydraulic fluid which protects both operator and machine. This fluid, known as Houghto-Safe will not burn or explode and is rated "acceptable from the fire hazard standpoint" by Factory Mutual Engineering Div. A rust preventive with a high flash point is offered for extra safety wherever fire danger exists. Also in the package is a safe water solution which cleans at room temperature, designed to replace low-flash point solvents and an all-purpose water-soluble cutting base identified as Antisep all-purpose base, which is another safeguard for personnel and equipment from flash fire dangers.

An 8-page "safety" folder describing each of these processing products is available from:

E. F. Houghton & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa.

Item No. 15.

Scintillation Scaler

An all purpose scaler with a large built-in light tight chamber for scintillation counting is new. Incorporating an RCA 5819 photomultiplier tube, the unit can be used for high efficiency Alpha, Beta and

Gamma scintillation counting through the use of quick-change crystal phosphors. External connectors for accessory Geiger tubes and scintillation counters are provided; a panel mounted switch selects the "in use" detector without disconnections or shutdowns.

The instrument features binary type scales up to 256 and uses a mechanical register in collecting these units up to 10,000. Count is presentable from 40 to 256,000 counts. For full details, write:

Reed-Curtis Scientific Instrument Co., Inc., 307 Culver Blvd., Playa del Rey, Calif.

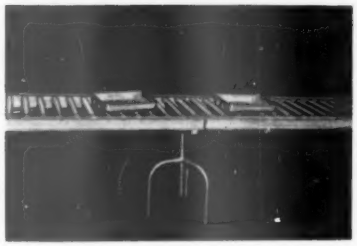
Item No. 16.

New safety equipment for industry

Further information on these new products and equipment may be obtained by writing direct to the manufacturer or to National Safety News. Accompanying coupon is for your convenience.

Magnesium Conveyor

A new, portable roller conveyor system fabricated entirely of magnesium has been announced. This new Magliner gravity system combines capacity-rated strength and utility with magnesium lightness and



greater ease of handling. According to the manufacturer, units weigh from 15 per cent to 40 per cent less than comparable equipment of similar size and capacity.

Designed primarily for use where portability and conveyor job-spotting is a major consideration, one man is reported to be able to set-up, dismantle or relocate the conveyor system in less time than normally required. Of standardized construction throughout, the conveyors can be installed as a complete system, or supplied in individual sections, with couplers to match existing equipment. Portable magnesium stands in three heights ranges from 17 to 72 inches above floor level, are also offered. Additional information is available on request from the manufacturer:

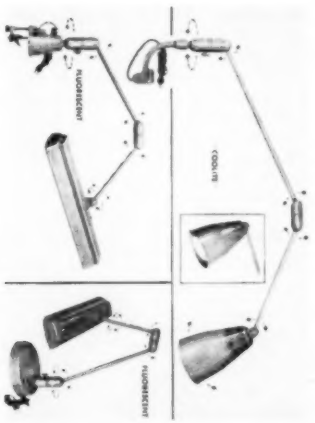
Magline, Inc., Pinconning, Mich.

Item No. 17.

Lighting Units

Dextra-Lites, a new line of 17 universally adjustable incandescent and fluorescent lighting units designed for industrial and commercial applications, have just been announced by the manufacturer.

An important feature of these units is the "coolite" shade. This is an incandescent metal shade which remains comfortable to



the touch even after long hours of use with a 100-watt lamp. There are four Coolite models in the line.

Another feature is the turn tension control which enables the user to "dial" the exact degree of rotating tension needed and holds the unit in desired position when the mounting surface is at an angle.

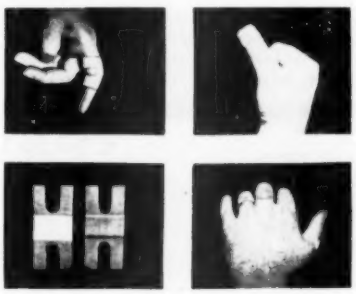
The Dextra-Lites line also includes fluorescent units with Clamp-on and "C"-bracket bases and a Flourescent desk model. The complete line is described in Bulletin No. 134 which is available upon request to:

Swivelier Company, Inc., 43—34th Street, Brooklyn 32, N. Y.

Item No. 18.

Elastic Knuckle-Band

Some of the toughest spots to bandage properly are knuckles, finger-tips, elbows,



toes and heels. To overcome this problem, a new type of elastic bandage is now available in Bullard first aid kits, unit packs and bulk.

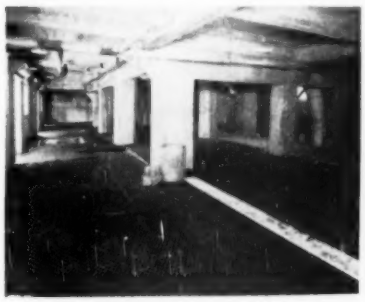
The elastic Knuckle-Band is made of woven elastic adhesive 3 inches long and 1½ inches wide. In the center a 1 by 1½-inch wide sterile gauze dressing is securely attached. Large enough to adequately cover all knuckles. The elastic design gives freedom of movement without bunching behind the knuckle. Will fit over thumb and finger tips and will stick tightly when applied. Write for full details to:

E. D. Bullard Co., 275 Eighth St., San Francisco 3, Calif.

Item No. 19.

Steel Reinforced Flooring

A new "packaged unit" heavy duty flooring which combines a heavy steel mesh and special filler as a complete unit for surfacing floors subjected to extra abuse is now available. Claimed to outlive the



building itself, this tough flooring meets the rugged requirements of modern industrial production and materials handling problems. Known as "Steel-Rock" it is engineered to combat floor destruction caused by heavy rolling traffic. Complete details and instructions are available free by writing:

United Laboratories, Inc., 16801 Euclid Ave., Cleveland, Ohio.

Item No. 20.

Cover Goggles

A cover goggle specifically designed to fit over modern large-frame prescription glasses is a new development. Ventilation has been greatly improved and area of vision increased, yet weight has been kept to a minimum by the use of light, strong, plastics.

These EyeGard Imperial cover goggles use standard 50 mm round lenses and have aluminum rims and side shields. Welders' cover goggles have baffled side shields to eliminate light and glare and are furnished with Federal Specification glare filter lenses. Chippers' and grinders' cover goggles have

New safety equipment for industry

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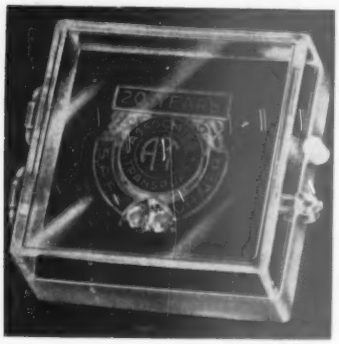
perforated side shields to provide increased ventilation and are furnished with clear lenses. For literature concerning these new Cover Goggles write:
American Industrial Safety Equipment Co., Lakeside Ave., Cleveland 14, Ohio.
Item No. 21.

Awards

The new Krystal Klear lucite presentation box for emblem awards adds dignity



to such presentations. This well designed, modern box can be used for safe-keeping of the emblem. The transparency of the box also serves to make presentations more effective, since the speaker can easily see and fully describe the emblem during the presentation. These boxes are designed and manufactured by:
Award Incentives, Inc., 200 William Street, New York 38.
Item No. 22.

Respirator

The C 256 Chemocart respirator which is single cartridge has been approved by

the U. S. Bureau of Mines Approval No. 2309 for low concentrations of organic vapors. More details are available by writing:
Pulmosan Safety Equipment Corp., 644 Pacific St., Brooklyn 17, N. Y.
Item No. 23.

Telescopic Mast

A new type mast, described as Double Telescopic, which can be lowered for working in low-ceilinged areas, or extended for extremely high-stacking in others, has just been introduced by Towmotor Corp., for use on Towmotor lift trucks. The new mast makes it possible for one and the same truck to be used both for entering and loading or unloading in box cars and highway trailers, as well as for high-stacking in storage areas.

The Double telescopic mast consists of two short masts, the first mounted in conventional position, while the second is mounted in place of the carriage. The carriage and forks, in turn, are mounted on the second mast. Both masts may be operated independently or simultaneously. When working in low-ceilinged areas, the forks are raised or lowered with both masts down. But for high stacking, the second mast is raised by the first, thereby adding the lift height of one to that of the other. Full details are available from the manufacturer:
Towmotor Corp., Cleveland, Ohio.
Item No. 24.

News Item

Production Materials Company, 2641 University Ave., St. Paul 14, Minn., has been assigned the Minneapolis and St. Paul sales area for the distribution of Ampco-Trode and Phos-Trode products.

Guilford Welding Supply Co., located at 1600 Guilford Ave., Baltimore, Md. has been appointed distributor for the full line of Ampco Weldrod products for the district of Columbia, the State of Maryland, northern Virginia and eastern West Virginia.

General Distributing Co., Inc. of Great Falls, Montana has been assigned the entire State of Montana for Ampco-Trode and Phos-Trode products. These distributors are in a position to supply all grades of Ampco-Trode bare rod, coated filler rod and coiled wire as well as Phos-Trode coated filler rod and coiled wire.

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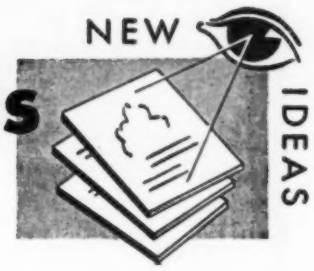

Trade publications

in the safety field

These trade publications will help you to keep up-to-the-minute on new products and developments in industrial health and safety equipment. They are free and will be sent by manufacturers without obligation to readers of NATIONAL SAFETY NEWS who are responsible for this work. Send in the coupon below checked for the publications you desire. Please make your requests promptly.

1. **"How a Supervisor Can Be Successful in Preventing Accidents"**: The purpose of this booklet is to help supervisors reduce the frequency and severity of industrial accidents. Also presented are more specific suggestions for the supervisor to use in getting the worker's acceptance of his leadership. Marsh & McLennan.

2. **Hoists for All Lifting and Pulling Jobs Anywhere:** Catalog illustrates and describes Coffing ratchet lever hoists—both roller and coil-chain models with capacities from ¾ to 15 tons, a complete line of standard and specialized spur gear hoists, quick-lift electric hoists, and a wide variety of utility maintenance tools. Coffing Hoist Co.

3. **Water Coolers:** 8-page catalog illustrates and describes pressure coolers, bottle-type coolers, coolers with cold storage compartment and ice cube trays, explosion-proof coolers and heavy-duty industrial coolers. Also featured are accessories, capacity and application charts, and roughing-in drawings for all models. Ebco Manufacturing Co.

4. **Electrician and Mechanic Tools:** A listing of tools for electricians, linemen and mechanics is described in Catalog No. 50. A few of the devices included are pliers, safety belts, clamps, "climbers," wrenches, knives and tool kits. Each product is carefully detailed and charts at the back of the booklet furnish additional information. Mathias Klein & Sons.

5. **Industrial Emblems and Awards:** All types of plaques, emblems, tablets, and medals with special emphasis on safety awards are illustrated and described in this 4-page folder. Descriptions include prices, size and composition. Williams Jewelry & Mfg. Co.

6. **"Slings for Industry"**: Folder 5308 is packed full of sling data, pictures of slings having approximate breaking strengths of 1,000 lbs. to 243.4 tons are shown listed with safe loads shown in tons for various angles of use. Macwhyte Co.

7. **Fire Extinguishing Equipment:** This 17-page illustrated catalog presents manual, mechanical and automatic-electric dry chemical fire extinguishing equipment. Featured also are "jeep" fire trucks, accessories, specifications and charts included. Ansul Chemical Co.

8. **Safety Enamel:** Described and illustrated in 2-color booklet is an enamel for floors to provide a non-skid surface. Silicon particles suspended in a plastic binder provide the abrasive surface, and corrosion and chemical resistance is said to be high. Applications for concrete, metal and wood surfaces included. Kelley-Mahorney Co.

9. **Interchangeable Respirator:** New folder describes how the interchangeable respirator series makes possible the use of one basic face piece assembly with a variety of cartridges and filters to provide protection against all common industrial respiratory hazards. Willson Products, Inc.

10. **Modern Maintenance:** A complete line of maintenance equipment is listed and described in this catalog which includes deodorants, disinfectants, dressings, insecticides, paints, waxes, polishes and removers, maintenance machinery and equipment. Hillyard Chemical Co.

11. **Scaffolding and Equipment:** Steel tubing sectional scaffolding, containing special safety features, is described and illustrated in this 19-page, 2-color catalog. Contains information about typical applications of tower scaffolding, putlogs and accessories, miscellaneous equipment, mechanical stirrup. Included pictures on-the-job applications and specifications. Bil-Jax, Inc.

12. **Hot Line Maintenance Products:** Booklet on various types of electrical transmission and distribution equipment for construction, maintenance and operation use. A. B. Chance Co.

13. **Mechanical Stirrups:** Folder illustrates and describes electric powered and air powered swing stage stirrups. Featured is the 3-section steel curved staging platform stirrup for grain elevators, tanks, or storage bins. Illustrations of rigging methods and use of stirrups are shown with pictures taken from actual jobs on various structures. Albina Engine and Machine Works.

14. **"Micro Precision Switches"**: Catalog 82 illustrates and describes switches designed primarily for the control of alternating current circuits in commercial and industrial applications. Shown are heavy duty switches, die cast assemblies, manual reset basic switches, etc., technical data and catalog terms. Micro Switch.

15. **Linemen's Rubber Protective Devices:** Catalog L-4 illustrates and describes a complete line of rubber protective goods. Shown are standard line hose, connector end line hose, rubber insulator hoods, linemen's blankets, protector gloves, rubber sleeves, static resisting line coat, rubber boots, etc. W. H. Salisbury & Co.

16. **"Eye Protection"**: This 16-page catalog covers a complete line of eye protection. Heat treated for added strength, the goggles include chipping and grinding, welding, riveting, tooling and chemical and dust protective type. Plastic goggles for different hazards are discussed. Mine Safety Appliances Co.

17. **"Floors and Floor Problems"**: 24-page brochure illustrates by photographs, drawings, and diagrams, and thoroughly explores such subjects as the various types of floors, how they are built, what factors enter into their deterioration, how floor trouble can be diagnosed and treated. Tremco Manufacturing Co.

18. **Guide Pin Covers:** A new survey report containing performance results of dies equipped with elasticone guide pin covers. Contains valuable information on new engineering concepts of die designs now possible with these guide pin covers. Central Safety Equipment Co.

19. **"Kinnear Rol-Top Door"**: Booklet illustrates and describes Rol-Top doors for commercial and industrial application. Photographs, diagrams and specifications included. Kinnear Manufacturing Co.

20. **"Automatic Feeds for Punch Presses"**: Catalog illustrates and describes roll feeds, dial feeds, for all makes of punch presses and straightening machines, air-blast valves, press-vac safety feeders and mechanical pickers. Specification charts included. F. J. Littell Machine Co.

21. **Floor Plate:** 23-page booklet illustrates and describes non-slip checker floor plate for walking surfaces, public conveyances and trucks or for use wherever a light weight friction surface is required. Tables, dimension charts included. Jones & Laughlin Steel Corp.

NATIONAL SAFETY NEWS

425 N. MICHIGAN AVE., CHICAGO 11, ILLINOIS

JANUARY, 1954

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ON OILY AND GREASY FLOORS

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COSTLY SLIPPING ACCIDENTS

USE Tamms FULLER'S EARTH

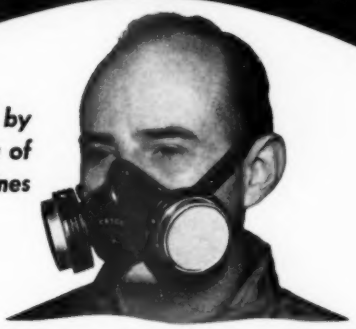
Adds greatly to the safety of your shop • Provides safe non-slip footing • Absorbs oil and grease • Lessens fire hazard because, unlike saw dust or wood shavings, it is non-inflammable • Every shop needs this low cost safety aid.

A trial will convince you. Send for FREE SAMPLE.

TAMMS INDUSTRIES, INC.

Dept. NM-10 • 228 N. La Salle St. Chicago 1, Ill.

CESCO



Approved by Bureau of Mines

Organic Vapor Respirator No. 99

• Here's a brand new twin cartridge respirator that fits perfectly. The facepiece is contoured to provide snug, comfortable, leakproof fit without excessive tension of the adjustable dual headbands.

• Positive acting inhale-exhale check valves prevent rebreathing or exhausting through cartridges. Valves are replaced without tools. Two 85cc absorbent cartridges provide ample breathing efficiency. They are easily and quickly replaced by unscrewing retaining caps.

• The CESCO No. 99 Respirator is covered by Bureau of Mines approval No. 2307 for organic vapors not exceeding 1/10 of 1% by volume.

Converts to Dust Respirator No. 96

• By simply replacing the vapor cartridges with CESCO filter pads, the No. 99 Respirator is converted to the No. 96 CESCO Dust Respirator. Filters are treated wool-felt with no outside screens or covers. The entire frontal surface of the filter is usable providing maximum efficiency and little resistance to breathing.

• The No. 96 Respirator is covered by Bureau of Mines approval No. 2167 for all dusts not significantly more toxic than lead.

Dual Purpose Saves You Money

• The unique feature of quick conversion from organic vapor to dust respirator by merely changing the two cartridges or filter pads makes these highly efficent CESCO No. 99 and No. 96 approved Respirators very economical. You buy only one respirator and elements as desired. They save you money.

CESCO

CESCO FOR SAFETY

These

Respiratory Protection

1 ORDER THE BASIC AO R2000 RESPIRATOR FACE PIECE.

2 ARE DUST HAZARDS PRESENT?
Then order the protection needed from among the types on the right:

3 ARE CHEMICAL FUMES PRESENT?
Then order the cartridges needed from among the following below:

R25 chemically treated felt filter for poisonous and disease-producing dusts and a combination of all dusts—toxic, nuisance and pneumoconiosis-producing. B.M. 2154

R15 cartridge for nuisance and pneumoconiosis-producing dusts in mining, quarrying and tunneling of quartz, sand, asbestos, coal and marble. B.M. 2121

R16 cartridge for toxic dusts caused by grinding and crushing lead, cadmium, arsenic, chromium, manganese, selenium, vanadium, etc. B.M. 2138

R17 cartridge for combination of all dusts—toxic, pneumoconiosis-producing and nuisance. B.M. 2138

R32 for acid gases, fumes, mists from plating, pickling tanks, etc. such as sulphuric acid, hydrogen chloride, nitric acid.

R34 for protection against nuisance concentrations of ammonia.

R33 for combined acid and organic gases such as halogenated hydrocarbons, carbon tetrachloride, and acetic acid in degreasing operations, etc.

R31 for light organic fumes, vapors, and gases generated in paint spraying, degreasing, dry cleaning, cementing, etc.

AO R2000 RESPIRATOR

American Optical
SAFETY PRODUCTS DIVISION

SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES